

Doctor In Education

Ed.D

The YouTube® effect: a paradigm shift
in how musicians learn, teach and
share?

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Abstract

This thesis explores the lived experience of qualified music educators and how they perceive, navigate and leverage the affordances of the web-based digital video tool, YouTube. The personal and professional value of YouTube in terms of learning, teaching and sharing both *in situ*, as classroom-based professional music practitioners and *ex situ*, beyond the classroom for lifelong musicians is revealed through participant led narrative and idiographic explication. A, purposive, homogenised sample of eight participants were interviewed and one pilot study was conducted using interpretative phenomenological analysis (IPA) as the methodology. The results show that a paradigm shift has occurred in the way that the participants learn and in the way they share and appropriate learning using YouTube. It was found that YouTube was universally valued as an archive or repository of exponentially increasing musical information. However, YouTube's integration into the school environment raised considerable issues of 'model conflict', practitioner autonomy and systemic control. YouTube was found unsuitable as a 'bolt-on' technology, since it can create dual and often-conflicting realities within a single controlled and systematised learning space.

My original contribution to knowledge is the exposition of the paradigmatic effect of YouTube on music learning, teaching and sharing and the reciprocal shifts in the professional and the personal praxes of eight music educators. Supporting this contribution is my reappraisal of Berlyne's (1954, 1960, 1966, 1978) seminal work on epistemic and perceptual curiosity. This thesis transports Berlyne's theoretical descriptors for the differing types of terrestrial exploratory behaviours and their motivators, via the concept of an expanded perceptual reality, from the physical environment and into the virtual environment of YouTube. This offers a theoretically underpinned lexicography to the academy to accurately categorise YouTube use and users and to describe their non-linear navigation and exploratory behaviours within teacher-led, mediated and user-generated creative learning contexts.

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Declaration

I, Neil Robert Garner, hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own. Word count exclusive of appendices and list of references but including footnotes, diagrams and tables: 50,124 words.

Neil Robert Garner

April 2017

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For my family and other animals.

Reflective Statement

The purpose of this statement is to provide a concise summary and synthesis of my learning experiences and how I have personally and professionally assimilated the taught modules and the Institute Focused Study and how they have proved to be positive catalysts that have significantly underpinned and informed the attached thesis component of the Ed.D programme. This reflection spans the six years of ongoing epistemological insights and ontological understandings gained through my academic research and indicates their implications for my professional practice. For clarity and purposeful connectivity, I shall proceed sequentially starting with the *raison d'être* and touchstone of the Ed.D programme: The Foundations of Professionalism Module.

The Foundations of Professionalism Module provided an exemplary academic theatre for the discussion and dissection of the teacher as professional. The module illuminated the matrices between political exigencies and the consequent practitioner expediencies whilst questioning the meaning and concept of professionalism in education from theoretical, social and political perspectives.

The Foundations of Professionalism Module and subsequent assignment afforded the opportunity for a cathartic exploration and interrogation of my own preconceptions and assumed professionalism as a music educator. This module articulated philosophically and theoretically the cognitive dissonance and praxial discomfort that have increasingly accompanied my role as a professional musician and educator with that of a politically directed public servant within the state education sector.

The incompatibility of public servant as professional became the essence of my assignment. The assignment enabled my academic investigation into the agencies that lay deeply hidden behind the public façade of state education. In my quest to discover the drivers behind the continued *faux* propagation and celebration of state teachers as autonomous professionals, I was introduced to the revelatory work of Stephen Ball (2003, 2006, 2012a).

Ball took one of the module sessions during which he systematically stripped away the layers of political obfuscation to reveal his perspective on the instruments and engines of power that have, and still do, shape education in both practice and policy. Ball used

the terms 'cynical compliance' and 'strategic compliance' with reference to the corrosive powers of targets, performance management, private finance initiatives and the hyper-accountability implications for teachers. Ball's revelations of the pernicious unintended outcomes of the commodification and marketization of education further undermined the possibility of teacher as even quasi-or semi-professional (Eraut 1994, 1995, 1997; Etzioni 1969) and consolidated my position, which led to the subject and title of my assignment, namely, 'The emperor's new clothes: exploring the myth of teacher as professional and the illusion of performativity'. Ball's seminar and academic writings concur unerringly, and somewhat unnervingly, with my experiences as a music educator of 18 years standing. Ball's meticulous tenacity in exposing the machinations of control and power and their tentacles of influence within the classroom confirmed my hitherto unresearched intuition regarding conflicting agendas.

My academic reading for the Foundations of Professionalism (FOP) Module also highlighted the lack of palpable influence the academy has on education policy and practice. I found that the lack of academic influence could in part be attributed to the progressive pedagogy of John Dewey losing the battle to the progressive administration of Edward Thorndike in the early part of the twentieth century. However, as a middle manager with little strategic influence, and also as a critical thinker who eschews the 1850 industrial model of education, my studies and increased surety in my philosophical perspective, has certainly not endeared me to my often target-obsessed employers. The antithetical pressures of part-time doctoral studies and full-time public service below senior management level cannot be underestimated.

The educational leviathan, as revealed during the FOP module, is so complex and inextricably manifest that it continually refutes any paradigm shift and also appears to purposely stymie any competing disruptive technological innovations, much to my consternation and continuing disappointment. The module ended citing political exigency, expediency and control, policed by surveilled performativity as the neo-liberal forces driving the future of education.

'Methods of Enquiry 1' took me far from my comfort zone and required the assimilation of new fields of theory and practice and the acquisition and understanding

of the essential tools of academic research. Despite having acquired two master's degrees, this module would be my introduction to academic methods of enquiry, and I soon realized the degree of logical precision in action and in the accurate application of terms was considerable!

The assignment for 'Methods of Enquiry 1' is in the form of a 5,000-word proposal designed to interrogate practices and ideas generated from within the researcher's professional context. My academic field is music education and my interest is the impact of new technology on the delivery of formal compulsory music education. The title of my assignment reflects this interest and also the direction of further proposed research: 'To what extent can informed learning practices using Web 2.0 technology be incorporated into formal music education?'

Then came the issue of research design and the selection of an appropriate model that defined the purpose, theory, research questions, methods and sampling strategy. My draft assignment was returned with much constructive feedback to enable the final submission to be much improved. The feedback and Methods of Enquiry 1 seminars were also supported by subject-specific doctoral research skills seminars given by my Ed.D supervisor, which afforded valuable subject-specific insights.

The Methods of Enquiry 1 Module embedded the key concepts that would inform the proposal for what would become my first fully actualized research project, whilst providing valid justifications for methodological, political and ethical decisions contained within the research design. The clarity and coherence of the arguments presented had to be academically defensible.

In summation the Methods of Enquiry 1 Module tested my resolve and furnished me with the applied academic precision required to function creatively and successfully using, albeit tentatively, the essential apparatus of academic research.

I was curiously anticipating the initial specialist course, namely, 'Using psychoanalytic perspectives to make sense of education and educational research' with a sense of relief now that I had successfully completed MOE 1.

I promptly purchased and read the core text for the module, which was seductively entitled 'Education: an impossible profession?' (Bibby, 2011) I have had more than a passing interest in evolutionary psychology especially within the field of music psychology; however, psychoanalytic theories were to prove as interesting and illuminating as they were enigmatic. 'Why is thinking and learning (sometimes) so difficult? What stops organizations from working effectively? What drives policy-makers to formulate policies that seem so incompatible with learning? And how are identities performed, constructed and constrained within educational settings?' are questions taken from the course descriptor within the Ed.D 2012–13 handbook and proved irresistible to my curiosity.

The title of my essay was ambitious and may have been an atavistic reaction to the hyper-constraints of the previous module, 'Freudian determinism? An exploration of Freud's archaeology of the psyche and its post-Freudian resonances for the present'. This module indirectly introduced some renowned philosophers filtered through the lens of psychoanalytic thought and their reactions to it: Marcuse, Zizeck, Foucault, Malabou (student of Derrida), Berlin, Popkewitz, Wittgenstein, Rand and of course Freud.

The matrix continued to grow and Freudian connections were being forged between seemingly disparate positions. Both Isaiah Berlin's 1958 lecture on 'The two concepts of liberty' and Fromm's (1941) 'Escape from Freedom' bore a remarkable similarity in essence to the Freudian (2002: 24) postulation that "our misery lies with what we call our civilization". Freud has very little indeed to say about music; however, I am a changed person since that module: much of Freudian and post-Freudian thought resonates within in me and I look forward to incorporating a psychoanalytic perspective within my future research beyond this Ed.D accreditation.

Methods of Enquiry 2 would be my first foray into the bruising world of mixed methods empirical, ethically approved academic research. During this module I was introduced to the social research software NVivo and the quantitative analysis programme SPSS/PASW18. The research required questionnaire dissemination and data collection. Detailed seminars instructed in coding methods and analyses options and on how to tailor results for selected audiences. The MOE2 module was particularly

intense, both mentally and physically, but most certainly it is the one module from which I acquired, and began to hone, my research skills. My research project was entitled 'Student attitudes and perceptions of Key Stage 3 music provision in an inner city comprehensive secondary school.'

Due to institutional approval delays I had only a minimal draft of this important assignment ready for a draft inspection submission. The draft contained only a skeletal outline and basic quantitative and qualitative data. Understandably the feedback I received was, as expected, minimal although apposite and useful. Once the qualitative data were converted into a digital format, they were loaded into NVivo as a single document for analysis. Initially I encountered several issues with NVivo but persisted and eventually NVivo began to prove its worth, although as a first-time user on such an important piece of work, it was nerve-wracking! The quantitative data were entrusted to Excel. I was pleasantly surprised by Excel's capabilities.

The data I received were fascinating although not unexpected. During the analysis the force of data began to shift my focus from hybridized learning environments towards autonomous musical learning and creativity via Web 2.0 technology. The discovery of active musical online communities triggered memories of Illich and his concept of learning webs contained within his famous 'Deschooling Society' (1971) now realized through social media.

My anecdotal evidence strongly suggested that Web 2.0 as YouTube was a game-changer as far as music education was concerned. The findings tentatively indicated that school children, if allowed access by their educational institution, appeared comfortable inhabiting simultaneously their virtual socially networked reality and the corporeality of the classroom. January 2013 to the Easter break proved revelatory as I was in a new post as head of music at an independent school in North London negotiating both a steep professional learning curve and the inception of my Instituted Focused Study (IFS)! I approached the head teacher with my research proposal entitled: 'Autonomy, technology and music: Informal learning in the classroom. Suitably impressed; he consented to my proposal.

Through the process of realizing my IFS, I learned the importance of thorough preparation and the importance of being in control of all the essential research

variables. My IFS study required an unfiltered broadband signal and 20 functioning iPads. Access to the YouTube search engine was an essential component of the research design. The pilot had revealed the amount of work required to synchronize and retrieve work from the iPads and also the large amount of individual iPad maintenance that was required to maintain their functionality within a classroom environment. I factored this workload into my final research design by conducting the research on Thursday and Friday thus allowing any technical issues to be resolved over the weekend outside of my contracted working hours.

The above recent scenario illustrates the inherent practicality of practitioner-led research within live environments. My flexible research design did allow for small changes in the data-capturing environment; however, the researcher has to be alert to immediate practical solutions to prevent a total compromise of the research project. I have realized, sometimes at great personal cost, that as a solo researcher practitioner, there are absolute limits to what is achievable within 20,000 words, without funding or research assistants and within a limited time-frame, whilst maintaining ones own professional teaching standards and continuing to remain gainfully employed. This level-eight course of study has taught me that it is not only about the brilliance of the initial idea, but the quality and academic rigour of the research and its execution.

Finally, and by way of introduction to my thesis and continued research focus, may I re-present my initial proposal from 2010, which enabled my entry to the Ed.D programme, presciently entitled, 'YouTube' and secondary music provision in the U.K. at Key Stage 3.'

The YouTube® effect: a paradigm shift in how musicians learn, teach and share?

One of the most heavily used technologies in the classes we observed was YouTube. YouTube's breadth of coverage appears to be what supports its thorough integration into classroom practice: students and teachers often searched on YouTube without having checked in advance whether they would find something relevant, and almost always found a video which satisfied them.

Stowell and Dixon (2013:13)

1. Introduction

This thesis introduction outlines the context and research design of an original study into the lived experiences of eight music educators, aiming to reveal their personal and professional usage, and their appropriation of the web-based digital video tool, known as YouTube. The research also explores the novel precipitation of insight and creative action through a cross-disciplinary phenomenological study of perception, perceptual and behavioural selection processes, firstly, within the natural environment and, then, within the digital environment. This research examines the human navigation of both the natural, physical environment and the digital environment, and examines the implications for music educators as they attempt to pedagogically synthesise their parochial, physically restricted reality with the boundless virtual omniscience of YouTube.

The axiology of YouTube, that is, the study of its value, ethically, pragmatically and aesthetically (Mingers, 2003) to the participants, is explored through the systematic research of their lived experiences, which will be analysed using interpretative phenomenological analysis and hermeneutics. Kafle (2013) adds that axiology is also referred to as 'value theory' and, as such is, integral to all academic pursuit. Kafle (2013:195) states that "values provide the standard for the evaluation of epistemological and ontological claims. In reference to research literature, axiology also refers to the involvement of the researcher's values and opinion in the process of knowledge generation." This phenomenological study uses Gibson's (1966, 1979) ecological approach to visual perception and his subsequent theory of Affordance as

the theoretical touchstone or basal framework onto which are mapped interconnected and extending cross-disciplinary theoretical concepts. The differing ontological, epistemological and philosophical perspectives on perception are critically analysed in the literature review chapter of this thesis.

This thesis explores, reviews and collates, through empirical data analysis and indicative academic literature, apposite theoretical positions regarding the possible perceptual navigation processes involved in navigating and accessing content via YouTube. Further examined, during the literature review, is the problematic of Gibsonian affordances and their initial recognition, selection and subsequent leveraging within the physical environment. This research then seeks to apply Gibson's theory of affordances and their perception within a world that would have been alien to Gibson, the expanded perceptual environment of virtual reality as provided by YouTube.

Societal and technological progress has created a multitude of new ways for people to engage with music; consequently music can be learned and accessed via an ever-increasing number of digital sources. I have always attempted to engage in a thorough theoretical exploration of the underpinning societal forces that have led to, and enabled, this digital expansion, as well as its significance for the development of musical agency, identity and knowledge. As a musician and practising teaching professional I have, since their inception, incorporated YouTube and allied web-based resource sites into my pedagogy. Ironically, YouTube is something of an academic scotoma. However, experientially YouTube has, in my professional practice, and from a variety of anecdotal educational sources, including professional music educator colleagues, become an invaluable, yet little understood and under-researched resource (Snelson, 2016).

I would contend that YouTube has fundamentally changed the access protocols to musical knowledge. This proliferation of musical knowledge via virtual interconnectivity appears, in my experience, to be accompanied by concomitant shifts in musical learning practices, attitudes and values. Kuhn (1962:10) suggests that a paradigm shift has two main components. Firstly, the paradigm must be “sufficiently unprecedented to attract an enduring group away from competing modes of scientific

activity” and secondly “sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners to resolve”. My ontological position is that a Kuhnian shift has taken place. I would also suggest that the fourth Revolution (Floridi, 2014) is well underway. As for the second of Kuhn's provisos, I am a music practitioner who is actively researching into the practicalities of mediated learning (Vygotsky, 1978, 1986) within a new and inter-connective virtual paradigm (Lévy, 1994; Siemens, 2005).

A serious examination of how musicians are learning, teaching and sharing and the 'on-the- ground' coping mechanisms employed whilst experiencing the dissonance of competing paradigms is as essential as it is overdue. This research therefore is filling lacunae by, firstly enlightening and, then, examining the delimitations of the classroom musical learning experience within what is an increasingly digitized and interconnected world. Despite innovative and well-intended attempts to confine and control music education within a systematised physical environment of the school institution (Folkestad, 2006; Green, 2001, 2010; Hallam *et al*, 2011), this research explores through the lived experiences of the respondents other possibilities that now exist within what is an expanded reality. Musical learning is now omnipresent as it can now take place within any technology-rich ecology (Luckin, 2008, 2008a, 2009, 2010).

2. Background

This research, is in part, motivated by Professor Lucy Green and her seminal work entitled 'How Popular Musicians Learn' (Green, 2001). During my Institute Focused Study (IFS) ¹'Autonomy, technology and music: informal learning in the classroom' (Garner, 2014) I believed that I had spotted a scotoma in Green's (2001) 'How popular musicians learn'. The lacuna was technology, and its unexplored possibilities within the binary between the disputed terminologies of formal and informal music learning (Andrews, 2013; Cain, 2013; Coffield, 2000; Finney and Philpott, 2010; Folkestad, 2006; Frierson-Campbell, 2008; Gower, 2012; Green, 2001, 2010; Väkevä, 2009). A re-examination and re-contextualisation of 'How Popular Musicians Learn' within an

¹ The Institute Focused Study is a written report of 20,000 words. The IFS follows the completion of the taught course modules of the Ed.D qualification and is positioned prior to the thesis. In this way it provides a link between the assignments and the thesis, and may form a pilot or preparatory work for the thesis. The IFS provides the opportunity for an in-depth study of an institution/organization concerned with educational provision, organization and support involving the student in both an academic and professional capacity.

immersive interconnected digital world was in need (Waldron, 2009, 2012, 2013; Papert, 1987; Siemens, 2005, 2008, 2008a; Levy, 1994). Spurred on by the lack of relevant literature available between 2005 and 2009 connecting the platform YouTube with music education, and given the exponential improvements in web technology, and interpersonal interconnectivity through social networking, streaming and video-sharing web sites, such as YouTube, I began my professional doctorate with a clear mandate to research the relationship between new technologies, especially YouTube, and musical learning practices within the 11–14 year secondary school sector in London, England.

This research is intended to illuminate the aforementioned lacuna in knowledge by researching how individual practising musicians, as music educators, have adjusted their perception, personal appropriation and professional application of digital technologies to improve their own musicianship and their educative practices within their workplace. This study will inform practitioner professional development and may reveal new methods and coping mechanisms extending those explicated in 'How Popular Musicians Learn' Green (2001). This research involves the innovative uses of YouTube as experienced by music educators and moves beyond the aforementioned false binary of formal and informal learning practices on which Green's 2001 study '*How popular musicians learn*' was predicated. As Green (2010:91) later argues, "we would benefit from further careful philosophical discussions of the different possible meanings and uses of the terms 'formal', 'informal' and 'non-formal'". I contend that we, the academy, would also benefit from knowledge of the lived experiences of practising music educators and their interrelationship with YouTube.

My recent IFS (Garner, 2014) was triggered by the heuristic combination of technology and insight illuminated by one seemingly insignificant statement by a respondent, Bernie, regarding technology and its unintended use. Bernie was one of the 14 musicians interviewed for Green's (2001:69) study into 'informal' musical learning. "Bernie had one year of guitar lessons when he was 11 to 12 years old, from a local dance musician in his father's factory band who taught him amongst other things, how to read notation". Bernie explains his creative combinatory experience (Boden, 1990, 2004; Koestler, 1964; Wiggins, 2015)

...I'd buy the LP and it would run at thirty-three revs per minute. I had a record player luckily that had a sixteen-and-a-half rpm speed, and what I'd do is, I'd get their guitar solos, and I'd play them at sixteen-and-a-half revs, write them down, because at that speed I could write it down onto paper, and then I'd learn them...I played them at the proper speed.

Bernie in Green (2001:69)

The above, almost spandrel quote, led to an Institute focussed study enquiry into the possibilities afforded by technology to promulgate autonomous musical learning and enable individualized knowledge acquisition and self-directed cognitive progress (Hase, 2009; Hase & Kenyon, 2000, 2001, 2013; Knowles, 1970, 1975; Luckin, 2008, 2008a, 2009, 2010; Peters, 1963, 1971, 1977; Piaget, 1950, 1959, 1977; Vygotsky 1978, 1986). During my IFS research, the practical 'boots on the ground' philosophy of R.S. Peters dealt concisely and conceptually with the actual realities and limitations of autonomy and heteronomy in the pre-digital education era (see Garner, 2014).

However, the invention of the Internet and the uncontrolled integration of YouTube and other constructivist-based social networking sites (Ershler & Stabile, 2015; Stabile & Ershler, 2015), including the search engine monopoly that has become Google®, into the music curriculum presents many opportunities, but also unforeseen pernicious outcomes. The passive abdication of problem-solving skills is but one unfortunate by-product of this. My own 'boots on the ground' experience echoed by Rudolph and Frankel (2009) indicates that both students and increasingly teachers are utilizing YouTube on an *ad hoc* basis (Savage, 2010; Stowell & Dixon, 2013) within a 'live' classroom environment and are ceding initially difficult problems immediately to Google or a 'how to' YouTube video (Cayari, 2011).

During my previous research studies and teaching career I have continually struggled to compartmentalize my pedagogy from the huge socio-political events that have harangued the educational system of the United Kingdom. I also cannot fully comprehend the often diametrically opposed policies that various governments of differing hues have pursued (Gillard, 2011). Therefore this thesis cannot circumnavigate the politics of neoliberalism and its influence on education and digital technologies. It appears that the almost invisible, yet omnipresent tendrils of

neoliberal power have created a virtual 'Ouija globe' consisting only of neoliberal intentions and possibilities where individual subjects are active agents within a politically distorted and controlled form of constructivism (Ball, 2012, 2013; Biesta, 2006, 2013, 2015; Fejes & Nicoll, 2008; Foucault, 1977; Foucault & Gordon, 1980).

Exponential social and intellectual emancipation through a future of unfettered digital interconnectivity I would contend is naïve, see Heidegger's (1954) 'The Question Concerning Technology' and Adorno & Horkheimer's (2016:2) stark warning about technologies utilization to "dominate both [nature] and human beings".

Adorno and Horkheimer's stark warnings serve to counterbalance the oft-promulgated emancipatory possibilities of the Internet as a global panacea. Music educators, as governed subjects (Fejes & Nicoll, 2008), are coming under increasing pressure from 'surveillance' and the forces of 'governmentality' (Foucault, 1977, Foucault & Gordon, 1980), performativity (Ball, 2012a) and these are occurring in an era of a 'neoliberal imaginary' (Rossiter, 2003) under which, all subjects, including musicians, are expected to embrace 'lifelong learning' (Biesta, 2006; Olsson & Petersson, 2008, Popkewitz *et al*, 2005) and become his, or her own product: The primary function of neoliberalism being productivity and self-responsibility (Olsson & Petersson, 2005).

Interestingly, the 'andragogic' (Knowles, 1975) possibilities inherent within the social constructivism of the web are completely aligned with neoliberal aspirations for self-responsibility and steered autonomy. Ball (2012) and Foucault and Gordon (1980) hint at a personal and individual escape as a 'last resort' allowing one to break free from the seemingly hermetic confines of the Möbius strip or Gordian knot of the neoliberal agenda. Again the *faux* escape route offered via self-surveilled, andragogic, self-directed learning is a response entirely in line with neoliberal wants and expectations, with the Internet as the enabling conduit.

3. Rationale

This thesis aims to explore a lacuna in knowledge with regard to how YouTube as a social media technology is navigated and individually utilized by musicians as music educators. This research, in what is a relatively new and under-researched area (Snelson, 2016), has been designed to explore, locate and analyse the actuality of

current digital learning practices and the value practitioners place on being able to access YouTube, including any difficulties they may face in assimilating YouTube into their praxes. The aim is to locate and analyse novel YouTube-enabled musical learning methods, techniques and practices as experienced by a purposive sample of eight professional musician-educators catalysed by the digital expansion that took place between YouTube's inception in 2005 and the present day (Mjøs, 2012).

This research is designed to target an under-researched niche group of bi-frontal professionals, that is, the professional musician as professional educator. Through an in-depth experiential understanding of how individual musicians as music educators, as opposed to on-line communities (Waldron, 2009, 2012, 2013), are currently perceiving, navigating and leveraging the capabilities of YouTube to enhance their musical learning. A thorough explication of their current practices and processes may prove of value both within and outside current professional classroom-based music education pedagogy. This qualitative research intends to illuminate how musicians are learning via YouTube, that is, creating new knowledge for themselves and others by utilising the technology of YouTube, in their professional and personal 'present' (*circa* 2016).

This thesis will examine the perceptual processes required to firstly, locate and then, harness or avoid the positive and negative affordances (Gibson, 1977,1979) within realities, both actual and virtual. An inquiry into the fundamentals of visual perception is considered *a priori* to understanding how YouTube is accessed and navigated, as perception predicates all creative experiences via the platform and results in the phenomenon called 'learning'.

Logically, I expected to find a strong correlation in the literature between affordance theory and creativity. However, my information searches revealed a dearth of interconnection between the Gibsonian concept of affordance and the multitude of creativity theories in the literature². Only very recent academic trends towards multi-

² An electronic word-search of both Volumes I and II of the 'Encyclopedia of Creativity' (Pritzker & Runco,1999) revealed only one passing mention of J.J. Gibson and his wife E. J. Gibson in the same sentence in Volume I (1999:109)

disciplinary research have de-siloed disciplines and has allowed affordance theory to be interlinked with the academic study of creativity and be revealed in the literature (Glăveanu *et al.*, 2016). As my research is focused on the individual experience of navigating and utilizing YouTube and the affordances therein, my interest initially alighted on the genesis processes of creative action as a necessary precursor to learning.

My concentration on initial behaviourist processes, led to a disruptive and counter-intuitive positioning of 'distraction' as a positive catalyst for initiating creative action and novel exploratory behaviours that precede learning and new knowledge construction. Following a reductionist path, the 'how' and 'why' attention manifests itself and precipitates actions, linear and non-linear, within an environment either actual or virtual was explored. This led to further inter-disciplinarity and the necessary consideration of evolutionary perspectives (Dawkins, 1986) and foundational behaviourist positions on the drivers and purpose of exploratory behaviours, especially their relationship to creative action and learning across both actual and virtual environments.

Continuing with the pursuit of reductionist inter-disciplinary interconnectivity, homeostasis (Cannon, 1932), orienting response (Pavlov, 1927) the law of 'requisite variety'³ (Ashby, 1956) and Gibson's affordance theory all appear to resonate with the philosopher Merleau-Ponty's phenomenological position on reciprocity and the concept of embodiment. The logical ouroborosian journey completes itself, and with it, the rationale for this research, by connecting Gibson's ecological approach to visual perception with Merleau-Ponty's 'Phenomenology of Perception' (1945) via Kuhn's (1962) notion of a paradigm shift and insights from Gestalt psychology all removed from their historical locus and reapplied within the Virtuality of YouTube.

³ If a system is to remain stable, the number of states of its control mechanism must be greater than, or equal to, the number of states in the system being controlled. Ashby states the Law as "variety can destroy variety". Ashby (1956: 207)

An allied aim of this research is to locate and explore the less 'governed spaces' (Ball, 2012; Fejes & Nicoll, 2008) in which individual subjects create or have created, aided and extended by technology (Ferneding, 2007: McLuhan, 1964; McLuhan *et al.*, 1967), new musical knowledge and practice whilst temporarily beyond the reach of what Bernstein (2001:377) classifies as a “totally pedagogised society” in which he explains that “the state is moving to ensure that there's no space or time which is not pedagogised.”

However, Nicoll (2008) raises issues of control and poses salient questions with regard to new technologies and their ability to subvert the disciplines and disciplining practices and also examines digital technologies disparate positioning within a modernist meta-narrative (Lyotard, 1979) landscape. Within this modernist meta-narrative new technologies are seen as 'emancipatory' and as contributors to 'truth'⁴. Nicoll (2008) cautions that the extended access and opportunity provided by, and through the discourses of new and expanding digital technologies may lead to the achievement of an more active, productive and governable positioning of subjects, 'where learners may literally and metaphorically be 'kept in their place'- a maintenance, if reconfiguration, or even extension of, of discipline.' Nicoll, (2008:168).

This research explores the questions:

1. How do professional music educators, through their lived experience, navigate Youtube and assimilate the affordances of YouTube into their professional music praxes?

1.1 Have professional music educators experienced a paradigmatic shift in how they as musicians, learn, teach and share music since the advent of YouTube?

1.2 How valuable, in the experience of the participants, is YouTube in directly influencing or informing their own musicianship and professional practice?

⁴ Nicoll (2008:165) suggests “Truth is knowledge untainted by the distorting effects of exercises of power or the embellishments of rhetoric.” and that “knowledge is disinterested in that it is concerned only with truth.”

4. Research Focus

This research is focused on the critical *a priori* role of visual perception in the creative process of learning and the production of new knowledge as explored through the prism of recent changes (since 2005) in musical learning practices enabled by the use of the video- sharing website YouTube.

An auxiliary research focus is to explore the degree to which novel musical learning practices utilizing a virtual environment have been scaffolded, taught or instigated by the leveraging of the 'affordances' offered within a hybrid combined environment of the virtual and the actual.

The focus of this research offers a critical perspective on how YouTube, now available as an instant resource within the majority of secondary school music practitioners' classrooms, is being currently pedagogized *in situ* and if it is, as has been suggested, 'thoroughly integrated' (Stowell & Dixon, 2013).

The individual interviewees' perceived experiences of the reciprocity between the self and the virtual environment are explored. A focus on YouTube's pedagogic possibilities and its appropriateness within the current educational environment will be viewed from a multiple of disciplinary perspectives, the coalescence of which may provide implications for music education practice and inform my own continuing professional practice and development.

Interdisciplinary and Transdisciplinarity

The concern of this research into YouTube and its educational use distils as a multi-perspective study into visual perception, exploratory behaviours and affordance leverage. Simply put, this would be how and why we see what we think we see, and do what we do. Therefore it is necessary to be extremely clear about the delimitations of this thesis and terminologies used within it.

Interdisciplinarity combines disciplines and facilitates the crossing of boundaries and thinking through and across them (Arnone *et al.*, 2011). Transdisciplinarity involves two or more disciplinary perspectives aligning or mapping to create a new and transformative approach to a problematic, as indicated by the literature review that

follows this section. This, aligning or mapping, mirrors the Hegelian dialogic of thesis-antithesis-synthesis, and as such, transdisciplinarity is also an example of a combinatory creative process.

According to Grimshaw *et al.* (2015:6) “the ideal might be an academic utopia of adisciplinarity, where knowledge is simply knowledge whatever its provenance or methodological genesis”. However, this research is fully cognizant of the fact that rational enquiry, at whatever level within the tertiary education system can be still hindered by academic silos that house discrete and defended methodologies.

In addition, each of these discrete academic silos supports bespoke terminology and approaches that often contradict, duplicate or overlap with competing theoretical frameworks or philosophical perspectives, thereby complicating conversations across the academic disciplines and increasing the risk of misunderstandings that could arise amid the confusion of often ambiguous scholarly terms and definitions.

From the outset this thesis has recognized the potential pitfalls and limitations inherent within this interdisciplinary academic enquiry and the explicit mitigations thus required. However, given the research question that this multi-theoretical approach is designed to answer, this thesis hopes to defend its determinedly interdisciplinary approach by explicating the proposed relationships, parallels and connectivity between the theoretical frameworks contained herein with clarity, reasoning and critical precision. This thesis draws on a wide range of academic literature from a targeted selection of disciplines and fields and the scientists and philosophers with which they are associated, principally the psychology of perception and exploratory behaviours as pioneered by Berlyne (1954, 1960, 1966, 1978) triangulated with J.J. Gibson (1977, 1979) and his concept of affordance, and Merleau-Ponty's (1945, 1997) phenomenology of perception and theory of embodiment. This transdisciplinary fusion and subsequent transference and novel reapplication of historical theoretical frameworks into the digital world of music practitioners of 2016 is undertaken by 'somebody who is looking back in order to go forward, taking the past with them.' (Appendix 01:43) and will, it is hoped, provide a novel vocabulary and new perspectives through which to communicate, describe and understand YouTube behaviours. Below is a visual distillation of the multi-perspective approach as used by

this research. The multi-coded Gestalt image (see figure 1.) shows a multiplicity of inter-woven possibilities enabled through proximity, connectivity, fluidity and synergy.



*Figure 1 - Proximity, connectivity, fluidity and synergy*⁵

5. Literature Review

YouTube can be viewed from a multiplicity of perspectives: YouTube as an emancipatory, self-aggregating, non-curated, self-policed 'Digital Ark' (Cayari, 2011) initially populated by user-generated content (UGC) and now commodified and increasingly controlled by professionally generated content (PGC); or, YouTube as another example of the interface between human biology and technology as an

⁵ Photo Citation: Spokane Fall Community College. (n.d.). The gestalt principles: Proximity. [Image].

<http://graphicdesign.spokanefalls.edu/tutorials/process/gestaltprinciples/gestaltprinc.html>

'autopoietic' (Maturana & Varela, 1980) self-regulating cybernetic system (Ashby & Stein, 1954; Ashby, 1956). YouTube's linear genealogy as an archive can be traced suggesting that it is but an animated twenty-first century iteration of the Baroque fashion for cabinets of curiosities⁶, which could be regarded as the eclectic embryonic antecedents of present day museums.

Despite the 'mirror maze' Fossati (2009) allure of YouTube as the current technological vehicle for both distraction, exploration and curiosity, the locus of this research is firmly rooted in the music education practitioner and the changes in practice, if any, that have been afforded by the use of YouTube to enhance practitioner musicianship and further enable the practitioner to improve as a music educator.

The effects of technology usage from a pupil perspective were researched in my both Methods of Enquiry Module (MoE2) and subsequently within my IFS. During both research projects I became increasingly aware of an irresistible osmotic shift in my practice resulting directly from the instant access to media available through YouTube. Absence of evidence is not evidence of absence; however, I have been researching this subject since 2010 and have found very little direct empirical research that analyses the personal and professional music practitioner experiences of YouTube in terms of practitioners' own musical learning and as classroom based pedagogues (Snelson, 2016).

Stowell and Dixon (2013) gave a tantalizing glimpse of actual practitioner behaviour when they conducted an ethnographic study within two secondary schools in England. They explored how technology influenced the appropriation of musical concepts within the formal classroom environment. Interestingly their ethnographic, part immersive, and observational research on the use of YouTube contradicted that of Webb (2007) whose work 'Music analysis down the (You) Tube?' was cited and posited an augmented version of Campbell's (2004) 'listen-to-learn' pedagogical model⁷ as a

⁶ See Ferrante Imperato (1599) and Bennett (2013).

⁷ Campbell's model (2004) as appropriated by Webb utilizes three central features; instruments (including voice), elements and context. Campbell asserts that during the 'folding' (Campbell: 2004: 55) instructional process they facilitate 'attentive', 'engaged', and 'enactive' listening. Webb (2007:151) concludes that 'cross media listening' is "...an approach to music comprised

framework for cross-media listening thereby mitigating the potential for a more instinctive use of the available multi-media. Cross-media listening, according to Webb (2007:1) “centres on visual musical works, pieces from moving image genres that are structured according to the codes, materials, devices and processes of music”.

In contrast to Webb’s and Campbell’s theoretical position, the ethnographic approach favoured by Stowell and Dixon (2013) found that YouTube usage was mutually instigated by both student and teacher and “casually integrated into many multimodal activities” (Stowell & Dixon, 2013:31).

Stowell and Dixon (2013:01) also observed that technology use within a web-linked music classroom “functioned as part of a richly multimodal ecosystem of technologies, combining aspects of formal and informal use.” Interestingly, Rudolph and Frankel (2009) indicated that both students and increasingly teachers utilized YouTube on an *ad hoc* basis within a 'live' classroom environment and revealed a tendency to cede initially difficult problems immediately to Google or a 'how to' YouTube video (Cayari, 2011).

Theoretical Frameworks

Harris and Hofer (2011), following Koehler and Mishra (2005, 2008, 2009) and Mishra and Koehler (2006), and building on the work of Shulman’s (1986, 1987) exploration of pedagogical content knowledge, used Koehler and Mishra’s (2008) concept of technological, pedagogical and content knowledge (TPACK) as a theoretical framework for their study. TPACK is centred on the specialized knowledge practitioners need to acquire, through professional development, to adjust their teaching to accommodate different or new technology mediated content areas (Harris, 2005, 2008). The ability to teach differently within different content areas is seen as the fundamental practitioner requirement for the successful integration of new technologies into a formal educative setting (Somekh, 2008). Harris and Hofer (2011) used Koehler and Mishra’s TPACK as their theoretical framework for their research into improving technology integration

of two phases closely related to (and which can articulate specifically with) the Attentive and Engaged phases of Campbell’s model’.

through specific practitioner development (Koehler & Mishra, 2009) (see diagram below).

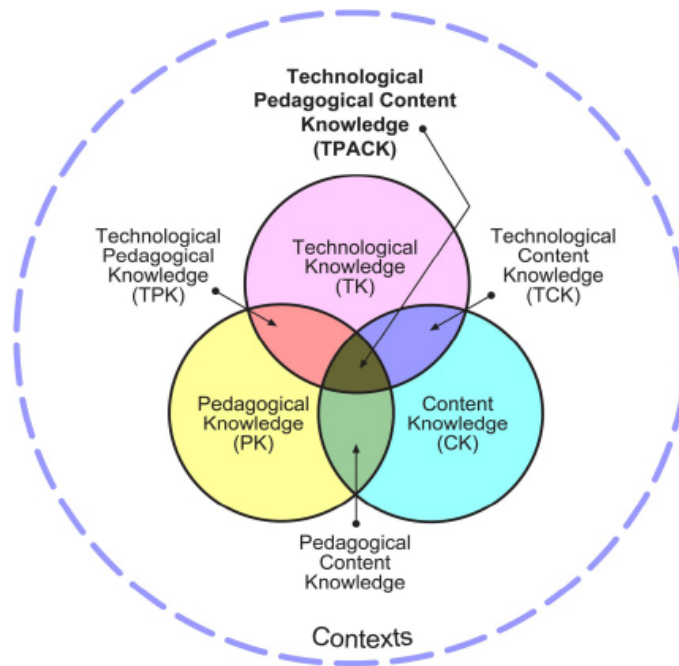


Figure 2 - Technological Pedagogical Content Knowledge (Koehler and Mishra, 2009)

Harris and Hofer (2011:212) admit that the TPACK framework is predicated on subjectivities and uncontrollable variables, for example “knowledge that results from teachers' concurrent and interdependent understanding of content, general pedagogy, technology, and learning contexts...”

The four intersections of knowledge featured in Figure 1. were the focus of the Harris and Hofer’s (2011) study and are expanded below:

- Pedagogical content knowledge (PCK): Shulman's (1986) construct about how to teach specific content-based material.
- Technological content knowledge (TCK): How to select technologies that best embody and support particular content-based precepts.
- Technological pedagogical knowledge (TPK): How to use particular technologies in teaching.
- Technological pedagogical content knowledge (TPCK/TPACK): How to teach specific content-based material, using technologies that best embody

and support it, in ways that are appropriately matched to students' needs and preferences.

Harris and Hofer (2011:213)

TPACK and its implementation are acknowledged by the researchers to be a complex and “highly situated educational construct that is not easily learned, taught, or applied.” (Harris & Hofer, 2011:213). TPACK is also subject to a considerable number of variables and limitations, as previously discussed, which are made explicit during their exposition in Harris and Hofer's intended research. The fact that all the above types of teacher knowledge are heavily influenced by contextual factors, namely, school organizational structures, socio-economic status and culturalization appears to compound the situation leading Harris, Mishra and Koehler (2009) to posit that the aforementioned difficulties have posed impediments and proven problematic in terms of the success of large-scale technology integration into schooling systems (Harris *et al.*, 2009; Harris & Hofer, 2009a).

Similarly the mixed-methods research into the use of YouTube by pre-service teachers by Krauskopf, Zahn and Hesse (2011) also used the TPACK framework to explore the mechanisms involved in leveraging the 'affordances' (Gibson, 1977,1979) inherent within YouTube for educative purposes by exploring the connection between practitioner mental modelling and how this modelling is influenced by their knowledge of a particular technology and its perceived 'affordances'. Krauskopf *et al.* suggest that the linking of technological knowledge (TK) and its integration with their pedagogic knowledge (PK) is a cognitive process, which they believe, is 'strongly connected' to the teacher's mental model of the tools affordances.

Krauskopf *et al.* continue...

Firstly, in order to pedagogically integrate a technology, teachers need to understand these affordances of the specific technology for learning, rather than merely knowing how to operate it (cf. Heidt, 1977). Secondly, based on this knowledge they need to relate the affordances to their teaching goals during lesson planning. In other words, the challenge for the individual teacher in leveraging technology affordances of digital video technology in their

classroom is to construct mental models which integrate the technology's learning-relevant functions with their pedagogical and subject matter knowledge...

Krauskopf *et al.* (2011:1–2)

Koehler *et al.* (2014) asserts that the TPACK framework has been the subject of over 600 peer-reviewed articles and they maintain it has gained the most traction in comparison to similar constructs. However, Koehler *et al.* cites similar validity concerns as Krauskopf *et al.* (2011:1204) who state that “the results do not differentiate between how the teachers' prior knowledge has influenced the process of constructing their mental models of YouTube over time and their mental models when they first encountered YouTube.” The sampling issues revealed by Krauskopf *et al.* appear somewhat intractable and clearly temper any claims to generalizability.

Koehler *et al.* (2014:109) in their conclusion argue for new methodologies that are able to adapt to the rapid changes within the field of technology and their integration into educative spaces. Koehler *et al.* (2014:109) clarifies this point with a telling reference that appears to align positive creative action with the preservation of a free and unbounded state: “This means that we need newer...ways of capturing and analysing phenomena that respect this open-endedness and creativity even while being sensitive to statistical variability and experimental biases.” TPACK and its derivatives, up until Koehler *et al.*'s (2014) admission with regard to the importance of teacher autonomy and creativity, have eschewed the deeper social, philosophical and ideological arguments that complicate the issue of technology integration via affordances. The TPACK framework appears to be a method by which new technologies can be subsumed into the current and dominant educational and political ideology and thereby controlled.

However, despite the current capability of inter-communicative technology to provide 'less governed spaces' in which it is possible for individual subjects to create new knowledge and practice, there is the distinct possibility that the subject is in a transitory position and is only temporarily beyond the reach of Foucault's 'panopticon' (Foucault, 1977) or indeed Jensen's (2007) omnopticon.

According to Siemens (2005:6) following McLuhan (1964) 'The pipe is more important than the content within the pipe' this statement is qualified during his conclusions when Siemens (2005:6) suggests that 'Our ability to learn what we need for tomorrow is more important than what we know today.' By this Siemens posits that development, and human agency within, socially constructed connective informatics systems, such as the world wide web, provide a knowledge enabling inter-communicative matrix (Ferneding, 2007). As Siemens (2005:7) states 'When knowledge...is needed, but not known, the ability to plug into sources to meet the requirements becomes a vital skill.'

The ability for web engaged subjects to aggregate new knowledge by exposing *priori* partial knowledge to a multiplicity of epistemological positions via web interconnectivity appears to circumnavigate the Socratic dilemma presented as Meno's paradox⁸ (2004; 80d-e). Siemen's (2005) 'Pipe' analogy appears to be a tacit reference to McLuhan (1964:7) and his much-misunderstood aphorism "the medium is the message". Debray (1996:109) compares McLuhan's neologism to that of the lesser known 'method engenders doctrine' coined by Cochin (1924:99). McLuhan describes the medium as "any extension of ourselves" and equates the "message" with, "...the change of scale or pace or pattern...that innovation or new technology introduces into human affairs." McLuhan, (1964:8).

Thus, for McLuhan (1964:199), in an attempt to mitigate any perceived detrimental impacts caused to societies and their cultures by exposure to the allied, and often-unforeseen, affordances carried by the 'medium', he suggests that "control over change would seem to consist in moving not with it but ahead of it." McLuhan further suggests anticipation gives the power to deflect and control force. McLuhan's postmodern style, as the previous quote exemplifies, often eclipses as it illuminates, and his much-critiqued technological determinism often overshadows his prescient

⁸ Meno's paradox is an epistemic dilemma: if you know the answer to the question you are asking, then nothing can be learned by asking. If you do not know the answer, then you cannot recognize a correct answer even if it is given to you. Therefore, one cannot learn anything by asking questions.

perspective on technologies and their implications for human agency (McLuhan, 1962, 1967).

McLuhan's reference to technology as an extension of human reach and capability, and his affirmation that the 'medium' as conduit or 'pipe' is of far greater importance than its content, indicates his awareness of the capacity for profound and often imperceptible structural changes that may be actualised by information systems. As McLuhan (1964:18) memorably dismisses the 'content' within the medium as nothing but a 'juicy piece of meat' to distract the 'watchdog of the mind' from the cascading set of interactions enabled through technology, and their far reaching implications for society. McLuhan's peculiarly counter-intuitive chiasmic aphorism: 'the medium is the message' appears to be presaged and possibly informed by a classic phenomenological thought experiment called 'The Blind man's stick', see Brey (2000), Nagel (2010) and Malafouris (2008).

Embodiment

The blind man's stick problematic has been rehearsed by Merleau-Ponty (1962), Polanyi (1958, 1966), Bateson (1973) and more recently by Malafouris (2008, 2013), and it addresses the question as posed by Malafouris (2013: 243) "Where does the blind man's self end and the world begin? Where do we draw, and on what basis can we draw, a delimiting line across the extended system that determines the blind man's perception and locomotion?" The stick as extension, technology and transformative interface substitutes vision for touch. The stick as interface, according to Malafouris (2013:244), is used to "denote any mediation (natural or artificial) that enables, constrains and in general specifies communication, flow and interaction between entities or processes." The stick therefore is seen as a 'pathway' and not a 'boundary' and, as such, the 'stick' metaphor parallels with McLuhan's concept of 'medium' through which a bi-directional flow of information virtually transports a person to the experiential 'tip of the stick' to a remote, yet familiar world of aesthetics, discovery and enactment actualized via technological navigation. Merleau-Ponty clarifies further,

The blind man's stick has ceased to be an object for him and is no longer perceived for itself; its point has become an area of sensitivity, extending the

scope and active radius of touch and providing a parallel to sight. In the exploration of things, the length of the stick does not enter expressively as a middle term: the blind man is rather aware of it through the position of object than of the position of objects through it. The position of things is immediately given through the extent of the reach that carries him to it, which comprises, besides the arm's reach, the stick's range of action.

Merleau-Ponty (1962:143)

Malafouris (2013:224) regards the ontological unity of the stick and the blind man as a metaphor that enables the conceptualization of “minds and things as *synechēs* (continuous)” and emblematic of his material engagement theory (MET), which he summarizes thus:

The functional anatomy of the human mind (which includes the whole organism, that is, brain/CNS and body) is a dynamic bio-cultural construct subject to continuous ontogenetic and phylogenetic transformation by behaviourally important and socially embedded experiences. These experiences are mediated and sometimes constituted by the use of material objects and artefacts (e.g., the blind man's stick) which for that reason should be seen as continuous, integral, and active parts of the human cognitive architecture.

Malafouris (2013:243)

Ruthmann *et al.* (2015:122) see this interconnectivity and define technological determinism thus: “By technological determinism we are referring to the common societal habit (Sterne, 2003) to anthropomorphize technology by assigning it human characteristics such as agency (Smith, 1994), and the ability to have 'causal influence on social practice' in and of itself. (Bimber, 1994:83)”

Sterne (2003:8) offers an apposite critique of technological determinism and suggests that such overtly deterministic views 'spring from an impoverished notion of causality'

To study technologies in any meaningful sense requires a rich sense of their connection with human practice, habitat, and habit. It requires attention to the

fields of combined cultural, social, and physical activity—what other authors have called networks or assemblages— from which technologies emerge and of which they are a part.

Sterne (2003:8)

Affordance

Sanders (1993) provides an illuminating examination of the oft-overlooked counterpoint between Gibson and Merleau-Ponty and their parallel studies into the complexities of perception. Gibson examines perception through the epistemological lens of psychology and Merleau-Ponty through phenomenology. Both Merleau-Ponty and Gibson have grounding in Gestalt principles, Merleau-Ponty via Husserl and Gibson under the aegis of the Gestalt psychologist Koffka.

Gibson started teaching psychology at Smith College, Massachusetts in 1928, where he met Kurt Koffka, a leading proponent of Gestalt psychology. According to Holm (2016), Koffka's presence at Smith College influenced Gibson's research practice and future trajectory in spite of Gibson's disagreement with the Gestalt theory of 'indirect' perception. Gibson challenged the idea that the environment was made up only of shapes and edges, arguing instead that the world consists of meaningful features that are experienced continuously. Gibson's argument was in favour of 'direct' perception of the environment through the retina that would eventually lead to his affordance theory.

During the mid 1930s James J. Gibson, despite William James's principal that stated 'the only things that shall be debatable among philosophers shall be things definable in terms drawn from experience' (James & Kuklick 1987:826), re-evaluated his 'radical empiricism' via his work on visual adaptation. Around this time Maurice Merleau-Ponty wrote '*La Nature de la Perception*' (1934) and finalized 'The Structure of Behaviour' (1942). Merleau-Ponty then published his *magnum opus* 'Phenomenology of Perception' (1945) and then pursued his argument on the embodiment of the subject as a rejection of the subject object dualism whilst developing his critique of mainstream Psychological approaches to perception. Meanwhile Gibson (1950; Gibson & Gibson 1955) took what he termed a 'psychophysical' approach to his investigations

of perception by developing his understanding of how aeronauts and other flight-enabled animals ended their flights with safe contact with landing surfaces. Gibson's 'ecological' approach to perception almost completely eschewed the traditional static 'stimulus response' approach to the understanding of vision which asserted that 'perceiving things first depends on having sensations' Gibson (1950:12).

The claim here, in other words, is that the insights of Merleau-Ponty on the phenomenology of perception can be embedded into a naturalistic epistemology with a complex dialectical structure, which explains the cognitive processes of ordinary life in terms of the principles of the natural sciences and which closes the circle by showing how the objective scientific view of the world emerges from these ordinary cognitive processes.

Gibson also wished to transcend the subject-object dichotomy and stated that “an affordance is neither an objective property nor a subjective property; or it is both if you like” Gibson (1986:129). Sanders clarifies:

Thus affordances, while relativized to individual organisms are not fully 'subjective'. Indeed, they neatly bridge the distinction between subject and object, being dependent on characteristics of both the organism and the environment.

Sanders (1993:291)

Dohn (2006:4) aligns the Gibsonian concept of 'affordance' with the Merleau-Pontian notion of “the 'body schema' [which] is the way one has, and knows one's body in action, through the demands and possibilities of the situation and the task one is undertaking in it.” Dohn (2006) then explicates the complementarity of the two concepts revealing an implicit “interdependency of body and world”. This interdependency or embodiment with and within the Gibsonian 'sensory flux' or the Hericlatean flux and the unity of opposites is revealed via a physical metaphor visually symbolic of both a Möbius strip and the mathematical sign ∞ (infinity) appropriated from Husserl by Merleau-Ponty, elegantly re-presented by Zuss (2012) and later articulated by Deleuze (1988; Deleuze & Guattari, 1988) and Foucault (1977).

There is a phrase always, an 'inside of the outside and the outside of the inside' in the relation between the sensible and intelligible, the visible and the invisible...[The] image of an individual touching one hand with the other, their folding over mixing the sensed with sensibility, the 'outside' hand making contact with the inside one in reversible reciprocity that becomes emblematic for the nature of our perceptual integration within a world that can no longer be posed as exterior.

Zuss (2012:127)

Dohn (2006) offers a Merleau-Pontian interpretation of affordance and its epistemological status. Firstly, affordances and their perception within the environment are context-bound and are perceived in order of task relevance. Secondly, and most interestingly with regard to the rational TPACK model, the perception of affordances is not 'what I can think, but more what I can do' and therefore not presaged or prefigured by representations or mental models. The Merleau-Pontian perspective suggests that situations or affordances interact directly with the body schematic 'to be acted upon'. Thirdly, Dohn suggests that we are not representationally aware as we body-schematically attune to the affordances of a situation. The fourth and final point explores the area of misperception, double-coded images or ambigram-style static optical illusions. Gibson (1977, 1979) and Hofstadter (2007) both explore this area. However, Dohn (2006) highlights the Gestaltian importance and ambiguity of the image and its contextualized interaction and its relevance both, to and from, the 'background figure structure'.

Importantly, perception always has a figure-background structure. This point is often illustrated with 'gestalt-switch pictures' where a picture can be seen in two different ways, as non-simultaneously representing two gestalts, where the background of one gestalt is the gestalt of the other and vice versa

Dohn (2006:5–6)

The fourth point infers that the meaning of a situation and the specific affordances offered stand out figuratively from a background. Wittgenstein (1958, *Ilxi* 2130:110) refers to this as “aspect blindness” and ponders whether “there [could] be human

beings lacking in the capacity to see something as something—and what would that be like? What sort of consequences would it have? Would this defect be comparable to colour-blindness or to not having absolute pitch?” Wittgenstein (1958:194) uses the Gestaltian switch picture of the 'duck rabbit' to illustrate his concept of aspect blindness. The 'duck-rabbit' has appeared in many rudimentary psychology textbooks and has become a classic two-dimensional optical illusion or visual phenomenon. The original switch picture featured in the German magazine entitled *Fliegende Blätter* (1892:147) and has remained unattributed (see figure 2.). However, Wittgenstein (1958) quoted his source as psychologist Joseph Jastrow (1899).

Creative action

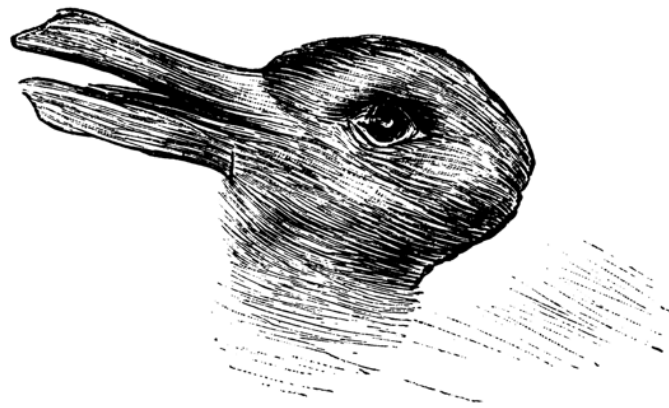
Jastrow interestingly makes reference to the element of surprise experienced by the viewer when the oscillation between the ambiguous image takes place. He foreshadows Boden (1990), and 'distraction', a tributary thematic of this thesis. This tributary thematic posits a link between perceptual or epistemic distraction, or simply, an abrupt attention shift or 'startle response'⁹ (Davis, 1984; Ramirez-Moreno & Sejnowski, 2012), with that of the catalytic surprise of Gibsonian affordance recognition as both a trigger and portal through which inspiration, as novel creative action, negative and positive, is enabled. The duck-rabbit illusion, or similar, when first encountered appears to viscerally reveal the sensation that *is* the creative spark, the illuminatory essence of the Archimedean 'Eureka'. The actual moment of revelation appears to be encapsulated and accompanied by an unexpected or seemingly involuntary perception of an ever-present, yet hitherto invisible, embedded affordance. This very first distracting oscillation between what was, and what is now, simultaneously shifts both perspective and paradigm. This hypotheses posits the 'Kuhnian shift' at the moment of its actualization is simply put by Jastrow (1899:292):

When it is a rabbit, the face looks to the right and a pair of ears are conspicuous behind; when it is a duck, the face looks to the left and the ears have been changed into the bill. Most observers find it difficult to hold either

⁹ In animals, including humans, the 'startle response' is a largely unconscious defensive response to sudden or threatening stimuli (Ramirez-Moreno & Sejnowski 2012:169).

interpretation steadily, the fluctuations being frequent, and coming as a surprise.

**Welche Thiere gleichen ein-
ander am meisten?**



Kaninchen und Ente.

Figure 3 – The Duck Rabbit Illusion

Jastrow (1899:292)

Thomas Kuhn (1962) famously uses the 'duck rabbit' visual anomaly to illustrate the perceptual shift that accompanies, and is integral to, his theory of a Kuhnian or paradigm shift. Kuhn (1962:126) points out "the duck-rabbit shows that two men with the same retinal impressions can see different things; the inverting lenses show that two men with different retinal impressions can see the same thing." Kuhn sees Gestaltian transformations as almost always irreversible and refers to such changes in the scientific tradition as revolutions.

Therefore, at times of revolution, when the normal-scientific tradition changes, the scientist's perception of his environment must be re-educated - in some familiar situations he must learn to see a new gestalt.

Kuhn (1962:112)

The term 'paradigm' is etymologically rooted in the Greek word for 'comparison' or literally 'to show side by side'. This description alone connects to the Gestaltian reduction of perception to foreground or background to Koestler's (1964:45)

'bisociative patterns' and also with to an expanded derivative of Koestler's "bisociation of matrices"; 'Conceptual blending', as proposed by Turner and Fauconnier (2002:37). 'Conceptual blending' starts with the premise of diverse scenarios that they suggest are then 'blended in a subconscious process'. Many definitions and descriptions of the creative process have been postulated yet there is little agreement amongst academics. One of the more common is the 'synthesis' or 'combinatory' idea where two seemingly disparate thoughts or ideas are brought together and through their interaction produce a hybridized third and novel outcome (Boden, 1990, 2004). I would suggest that the concept of the 'paradigm shift' and the multitude of other equally persuasive theories of the creative moment are not as mutually exclusive as they at first appear. I would contest that the 'Aha!' illuminatory moment of inspirational spark and its concomitant perceptual and attentional shift is indeed to some greater or lesser degree paradigmatic. The abrupt and instantaneous flash fusion of distraction (attention shift) with abstraction producing an ephemeral, almost stroboscopic, perspective of hitherto unperceived and psychologically novel possibilities being but one concatenation.

However, Nickles' (1999:337–338) suggests that in some cases no paradigm shift accompanies a creative discovery: Nickles' presents the essential Kuhnian tension between tradition and innovation required to 'frame' a paradigm shift as convergent and divergent thought. Nickles has divided creative action into five groupings. Firstly, and requiring no paradigm shift is "learning by reason or case based reasoning" which favours analogic reasoning with mainly convergent thought, where new problems are mapped over old, exemplar problems, and previous solutions scanned for suitability and applicability. Secondly there is "exemplar based, divergent thinking" which is seen as transformative, not just additive or subtractive, and produces fundamental exemplar change and revolutionary remodelling of a pre-existing problematic. Exemplar-based divergent thinking, as a creative behaviour, requires a paradigmatic shift. Thirdly, there is convergent, rule-based thinking within a single system of rules, which involves innovating, without a Kuhnian shift, novel applications for a pre-existing rule set.

Fourthly is the view of creativity that employs "rule breaking divergence". This view, emblematic of a paradigm shift, promulgates the idea that an abrupt and speculative

perceptual shift in possibilities and their subsequent actualization break established patterning and rules, replacing them anew. Nickles's fifth account of creativity is the necessary interweaving of the above four examples of creative behaviour that feature "various mixed accounts of creativity that involve both direct modelling on exemplars and the use of rules" using convergent or divergent thought and may, or may not, involve a paradigm shift.

This thesis is eschewing the systems-based, contextualized approach to creativity and its historical positioning and societal value (Burnard, 2012; Csikszentmihalyi, 1996, 1997) in order to concentrate on the interactive process between the individual human agent and her environment. Especially, I wish to concentrate on what is considered the 'real' or visceral physical and the possibilities of extending human knowledge via the creative and divergent use of digital interfaces, such as YouTube.

Technology

Floridi (2014) demarcates technologies into first, second and third orders. Floridi obviates the use of the word 'affordance' despite the work of Norman (1988, 2013). Norman's 'The Design of Everyday Things' aimed to extend the Gibsonian concept of affordance by explicating the communication, or interface between the 'user-centered system design' (Norman & Draper, 1986:61) of objects (technology) and the user (agent). Floridi expediently promotes the term 'prompter' as opposed to 'affordance' to clarify his premise.

For some time, I thought that affordance would do, but this is a term that has other technical connotations in other specific contexts, so may prove too confusing. Using it would mean the sun would have to be described as an affordance for the hat, whereas we really want to say that blocking the sun is an affordance of the hat.

Floridi (2014:236)

Despite Floridi's authorial bypass of the "technical connotations in other specific contexts" with regards to his non-use of the Gibsonian concept of affordance, his use of the almost Merleau-Pontian term 'in-betweeness' substitutes for 'interface' and

sees technology as a Janusian interface in-between the interactive user and the 'prompter' (affordance). Floridi's taxonomy places technologies that are in-between Humanity and nature as first-order technologies, citing the wood-splitting axe as a first-order technology between the interactive agent as the user and the wood as the prompter; other examples are the saddle which interfaces with the human and the horse. Interestingly Floridi cites the assault rifle as a first-order technology where humans are both users and prompters to exemplify the bifurcation properties of affordances and the two-faced Janusian nature of interfaces as both negative and positive catalysts which can be for the 'good or ill' of the organism.

Floridi (2014:26) sees second-order technologies as "relating users no longer to nature but to other technologies; that is, they are technologies whose prompters are other technologies." A rare, yet apposite, innovative example of non-human insightful second-order technology use would be the case of Sultan, a chimpanzee, studied by the Gestalt psychologist Wolfgang Köhler (Köhler & Winter, 1925). Köhler's experiments carried out between 1913–1917 demonstrate Gibson's affordance theory and the 'sudden' or 'surprising' moment of insight that is a suggested invariant of the creative process (Boden, 1990) via Sultan's reorganization and recognition of the relationship between the various aspects of the visual field resulting in both first and second order technology use as proposed by Floridi (2014). The two most renowned experiments Köhler conducted involved a 'stick' problem and a 'box' problem and the insightful solutions enacted by a hunger- incentivised chimpanzee.

The first experiment involved a banana bunch placed outside the cage beyond the reach of Sultan and two bamboo sticks with hollow ends. After testing the 'affordance' of a single stick (first-order technology) Köhler prompted Sultan by pushing his finger into the hollow bamboo ends, but still Sultan did not make the connection. Eventually Sultan in an apparent moment of insightful affordance recognition, connected the two sticks together (second-order technology) and retrieved the reward. Sultan similarly solved the 'box' problem as he retrieved a banana bunch suspended out of his reach by stacking wooden box upon wooden box and then climbing until the reward was within reach.

Interestingly E.J. Gibson (1969, 1991; Gibson & Walk, 1960; Gibson & Levin, 1975) a respected psychologist and wife of affordance theorist J.J. Gibson, takes Köhler's insights into learning as being derived from and through the reorganization and recognition of the relationship between the various aspects of the visual field. E.J. Gibson further develops field aspect relations into a domain defining ecological approach to perceptual learning and development (E.J. Gibson & Pick, 2000). J.J. Gibson also favours the term 'ecology'. Gibson's seminal text on affordance is featured in 'The Ecological Approach to Perception' (1986). Luckin (2010) in her Vygotskian (1978) based work on contextualized learning also uses the term 'ecology of resources' when referring to the affordance of technologies within a technology-rich environment.

In foundational terms the illumination of the physical environment and its Gibsonian affordances require full spectrum solar light in order for a human agent to navigate and leverage the possibilities available 'for good or for ill'. The reciprocal retinal 'after images' supported by the haptic 'sensorial flux' appear key to the construction of a mirrored psychological, internal intellectual environment modelled in order to continue to map and explore the pathways, possibilities and 'niches' afforded by the ecological resources and their affordances beyond the physical perception afforded by full-spectrum daylight. Internal psychic 'flashes' of creativity, the 'spark' of intuition and the 'illumination' of a problem all appear as secondary mental analogies or psychic reconstructions based on the primary and direct perception afforded in the physical world during the day during full spectrum solar light.

Different fields of research, and indeed researchers often use different descriptors and metaphors for ostensibly the same action or purpose, as with Floridi's preference for the word 'prompter' as opposed to the Gibsonian 'affordance'. Here Floridi (2014:34) summons Janus, the two-faced (bi-front) Roman god of 'passages and transitions' as a metaphor for the concept of a digital interface which are 'by definition' bi-frontal. Floridi (2014) rehearses the socio-biological blueprint of advanced digital technologies via Aristotle (1995:1.125, 4a14–18) in which other humans, as slaves, become "...a piece of property, and a piece of property is an instrument for action separate from its owner", and as such he states that they, the slaves, could be considered to be third-order technology. Technology as a slave to humanity or humanity as slave to

technology is a philosophically well-rehearsed chiasmus but, as with both creativity and perception, the concern of this thesis is with process.

However, the human body, when considered as a Janusian interface with a reciprocal and complex natural environment, appears to display all the attributes of Floridi's third-order technology which contests his assertion that "essentially, third-order technologies (including the Internet of things) are about removing us, 'the cumbersome human in-betweeners, off the loop'" (Floridi, 2014:30). Floridi, however, defines third-order technologies as something beyond the skin-bound body, he sees the third order as "technologies as users interacting with other technologies as prompters, through other in-between technologies"(Floridi, 2014:31). However, when the psyche as technology plus the body/interface as technology and the environment as technology enmesh, their seamless interconnectedness appears to display attributes that are exemplary of an autopoietic closed system of biotechnology (Maturana & Varela, 1980), or, from a Merleau-Pontian phenomenological perspective, the concept of 'embodiment' with human and environment inextricably linked as one.

Malafouris (2013) comprehensively consults both cognitive science and philosophical thought as he intricately constructs a cross-disciplinary theoretical framework which he refers to as material engagement theory (MET) based initially on the theory of mediated learning as proposed by Vygotsky (1978, 1986). MET's analytical framework, supported by the work of Latour (1993, 2005) on actor network theory (ANT) posits an embodied perspective that pushes and fuses the concept of Gibsonian ecology of perception and Merleau-Pontian phenomenological perception and re-evaluates the role and relationship of material things in creative agency and action by,

collapsing the divisions between, perception, cognition and action and rejecting the methodological separation between individual creative experience and the material mediational means and collective structures through which it becomes realized.

Malafouris (2013:212)

Malafouris (2013) appears to offer both the recursive and reciprocal, emphasising the interweaving and interlacing of the body both as, and in, the environment. Malafouris embraces the Merleau-Pontian concept of the 'Flesh' as the 'fold or membrane' (Zuss, 2012:127) of bi-communicative interconnectivity with the environment as lived world. The Merleau-Pontian concept of 'flesh' as a corporeal visceral interface parallels Floridi's (2014) exposition of third-order autopoietic invisible digital interfaces hinted at by Merleau-Ponty with his 'flesh' as 'membrane' affording a 'second visibility' much as digital technologies are conceived to offer. Like Floridi, Merleau-Ponty describes this 'flesh' or Floridian interface as 'Janus-like' and as a 'Pandorian' circularity of experience. Visceral reality appears, when seen through the Merleau-Pontian philosophical prism, as the very first interface, and as such, the palimpsest of the superimposed virtual. Put simply, a study of perception in the visceral world is at once a study of perception within the virtual world.

With the first vision, the first contact, the first pleasure, there is initiation, that is, not the positioning of content, but the opening of a dimension that can never again be closed, the establishment of a level in terms of which every other experience will henceforth be situated. The idea is at this level, this dimension.

Merleau-Ponty (1997:151)

The Perception of Affordance

Gibson (1950, 1960, 1966, 1972, 1977,1979) throughout his investigative academic career into perception has always recognized the difficulties and possibilities provided by optical illusion and its relevance to his 'information pick-up' theory. He suggests that,

...a concept of information is required that admits of the possibility of illusion. Illusions are a theoretical perplexity in any approach to the study of perception. Is information always valid and illusion simply a failure to pick it up? Or is the information picked up sometimes impoverished, masked, ambiguous, equivocal, contradictory, even false?

Gibson (1979:232)

Gibson (1979:232) considers incoming perceptual mis-information but further questions whether or not it is the organism's failure to 'pick up' all the information from the "inexhaustible reservoir that lies open to further scrutiny?". Gibson confesses that the delineation between a failure in the 'pick-up' of information and the 'pick-up' of mis-information is difficult. Shimony (1971) discusses the evolutionary systems that suppress the ocular and haptic senses in order to cut down the background internal noise generated by the human body. This evolutionary sensory suppression, or re-direction towards stimuli from the external environment, may have implications for Gibson's 'information pick-up' theory.

The concept of affordance first coined by Gibson, (1977, 1979) and the educational practices for the leveraging of affordances (Krauskopf *et al.*, 2011) within, as Brown (2015:112) describes, a '*Technology-Rich Teaching and Learning Environment (TRTLE)*' are key concepts of this thesis. A TRTLE as defined by Tikhomirov (1981:9) is a space where 'a transformation of human activity occurs, and new forms of activity emerge'. Brown (2015) uses the metaphor 'humans-with-media' promulgated by Borba & Villarreal (2005:26) to explicate the potential whereby 'both humans and technology contribute to knowledge construction as *teachers-and-students-with-digital technologies*.' (Brown, 2015:112).

Similarly Luckin (2010) regards reciprocity and context as key components to enabling mutually transformative learning experiences between the teacher and the student. Luckin (2010) borrows the Vygotskian term *Obuchenie* to describe this "...gradual exchange of knowledge that results in mutual cognitive growth." (Le Blanc & Bearison, 2004:513).

Five years before the invention of the World Wide Web by Berners-Lee in 1989, Bloom's 'Sigma 2 study' (1984) highlighted the effectiveness of one-to-one or small-group study. Current web-based panoptic (Foucault 1977), synoptic (Mathieson, 1997) and omnoptic (Jensen, 2007) technologies and their affordances now offer the potential for individualized learning. Learners can select, via the Internet, both the 'wisdom of crowds' (Surowiecki, 2004) and their 'tyranny' (Rand, 1957) or not, whilst experiencing varying degrees of anonymity, surveillance and Virtual 'affordance'.

The term affordance is contested, particularly regarding the “ontology of [technological affordances]” Parchoma (2014:360) and it has undergone various interpretations and meaning since Gibson's initial explication below,

The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, but the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment.'

Gibson (1979:127)

Gibson suggests that the environment offers “roughly a set of threats (negative affordances) and promises (positive affordances) that characterize items in the environment relative to organisms' (Scarantino, 2003:950). Gibson's anthropological standpoint is not dissimilar to that of Gould & Vrba (1982) who use the term 'exaptation' to mean the unexpected reciprocity (both positive and negative) between animal and environment or, arguably an evolutionary affordance.

However, according to Dennet (1993) the term 'exaptation' is also contested. Dennet agrees with the phenomenon itself, but disagrees with Gould and Vrba's terminology. Dennet prefers the term 'pre-adaption' (see Garner, 2014:12–14). Reed (1996) in Parchoma (2014:361) also takes the evolutionary adaption perspective and sees affordances as “...scarce environmental resources implicated in evolutionary natural selection processes, and therefore, regulators of human and animal adaptive behaviours.”

Parchoma (2014) reveals the ontological debate in order to explore the variations across social science definitions of affordances [and their] impact on the analytical integrity of the term. Oliver (2005:403) sees Gibson's essentialist stance, which directly considers perception and action as integral to his (Gibson's) theory of natural and universal affordances, as “speculative rather than analytic” and concludes that as such, the term 'affordance' is of little use, if any, for research purposes.

Norman (1988, 2013) subsumes affordances within his 'Psychology of Everyday Things' and marks the difference between the physical and the cognitive aspects of objects, which by extension, differentiates between 'real' and 'perceived' affordance. Norman's position aligns with Gibson's (1977) idea of natural vision. Natural vision means that actors, animal or human, directly perceive affordances within their environment. By the positioning of real affordances by both Gibson (1977) and Norman (2004) as natural phenomena affordances can assume pseudo-invulnerability to criticality (Potter & Wetherell, 1987). Fenwick and Edwards (2010:4) referred to this beyond critique positioning as 'black-boxing'. The interpretivist-realist *impasse* between 'real' and cognitive affordances holds an ontological inconsistency between objectivity and subjectivity. Hence, "all we can ever have access to is what we can perceive...thus all we can ever access are 'perceived' affordances"(Oliver, 2005:406).

The interpretivist-realist dilemma remains an issue yet theorists still utilise Gibson's theory of affordance, albeit with redefinitions. Turvey (1992) repositions affordance as the dispositional properties of objects and environments, which only manifest themselves in relation to manifesting circumstances. Parchoma (2014:361) continues by stating that, "as humans and animals move through their environments their effectivities create actualizing circumstances that reveal affordances". Gibson (1979:129) states that affordances are "both physical and psychical, yet neither." Chemero (2003:182) rejects Gibson (1979), Turvey (1992) and Reed's (1996) positions. Chemero (2003) argues that affordances are simply aspect-based relations between animals, including humans, and situations.

Schmidt (2007) explores the realm of social affordances and Scarantino (2003) further compounds the heterogeneity of the social and psychological concept of affordances with a focus on contingency and intentionality. The ontological arguments surrounding the term will doubtless continue. However, technological affordance (Brown, 2015; Parchoma, 2014) will need to be examined to address in part the research questions posited by this thesis. This will involve the crossing into another area described by Parchoma (2005, 2008, 2014) as 'technological affordances'.

Affordances are, as Gibson (1979) points out, for both 'good and ill'. Therefore, the intentional constraint of a technology by human agency that purposely stymies the

emancipatory possibilities of any technology can, according to Suthers (2006:664), “enforce a learning agenda”. Such restrictions on interoperability would limit the effectivity of affordances and would qualify the now controlled and steered affordances to be aligned with Akrich and Latour's (1992) concept of affordances as regulators. Bloomfield *et al.* (2010:415) argue that affordances have to be situated in a socio-technical system and that the perception of them and consequent action is dependent on the 'here and now and to whom'. Therefore, according to Bloomfield (2014:415), the leveraging of technological affordance is '...inextricably bound up with specific, historically situated modes of engagement and ways of life.'

Technological Affordance in Education

The area of affordances and their import within educational and social media networks, such as YouTube, are also contested. The intractable debate around the ontology, namely the subject-object dilemma continues (Hutchby, 2001; Oliver, 2005). However, Pea (1993) following Engestrom (1990), sees affordances as socially constructed and advocates a scaffolded approach to guiding learners. Learners, according to Pea (1993), should have access to a Vygotskian-style more knowledgeable other. This mirrors Luckin's (2010) *obuchenie* methodology and presages Koehler and Mishra's (2008) promulgation of TPACK as a compartmentalized scaffolding system to enable the better leveraging and initial perception of technological affordances within an a “technology rich teaching learning environment” (Brown, 2015:112).

Orlikowski (2000) simplifies and encapsulates the socio-technical aspect of collaborative technologies, and with it, the purpose of this interpretative enquiry into the temporal and situated interactions between music education practitioners as human agents and the available technologies, primarily YouTube, within a TRTLE (Brown, 2015). Orlikowski clarifies that,

...users can and do use technologies as they were designed, they also can and do circumvent inscribed ways of using the technologies - either ignoring certain properties of the technology, working around them, or inventing new ones that may go beyond or even contradict designer's expectations and inscriptions...

Orlikowski (2000:407)

The interrogation of what, where, when and how the participants in this research have interacted with technological affordances relies on what affordances they have managed to subjectively illuminate. As Oliver (2005:406) asserts “all we have access to is what we can perceive...” The bi-directionality of affordances, both 'to the environment and to the observer' Gibson (1979:129) remains central to the concept of affordance.

Brown (2015:120) following (Brown & Stillman, 2014), accept the Gibsonian (1977:78) position with regards to affordance invariance. Gibson suggests that “whether or not the affordance is perceived or attended to will change as the need of the observer changes, but being invariant, always there to be perceived”. Both Brown and Stillman see this as key to using affordances in educational research as they encountered many situations when affordances were not perceived nor enacted by the student. Brown (2015) recommends that guidance as proposed by Pea (1993), should be provided to enable the student or teacher to perceive and enact the now-revealed affordance.

[The Bridge of Affordance](#)

The capability of an agent to perceive a 'real' or 'cognitive' affordance within a particular technological ecology or 'taskscape' (Tomlinson, 2015) commensurate with the observer's ability to enact the affordance, is the subjective crux of the problematic with regard to the efficacy of affordances within an educative setting. Brown (2015:120) found that, “...situations existed where it was reasonable to think that enactment of a particular affordance would support the intention of a teacher or student, in a given teaching or learning situation”. However, Brown (2015:120) “identified many such situations where such affordances were not 'perceived and enacted’”. This initial affordance perception problematic appears prevalent throughout the literature surrounding Gibson's theory of affordance (Hutchby, 2001; Kirlik, 2013; Oliver, 2005; Pea, 1993)

I would posit that a heightened awareness of the situated self and embodiment within the environment, and the ability to psychically and/or physically create a bi-directional 'bridge of affordance' between the self and the environment are fundamental human prerequisites to enabling the detection of 'real' affordances and creation of cognitively constructed affordances. This aligns with Gibson (1979:129) when he describes

affordances as “both physical and psychical, yet neither.” Chemero (2003:182) once again contests this claim and reduces the Gibsonian vision of affordances to nothing but 'impossible, ghostly entities'.

Perception is essential to Gibson's premise for affordance. This perception can doubtless be achieved through all the senses and also as perceived thoughts. Gibson (1979) describes this process as 'sensorial flux'. For the individual agent to utilize the salient phenomena of the incoming 'sensorial flux' and thereby inter-connect those to the deeper, latent affordances offered by the environment I would posit requires higher order Piagetian (1959, 1977) abstract thought processing (Ginsburg & Oppen, 1969).

Distraction

Heightened awareness or hyper-attentiveness of the self, difference and the *mis en scene* appear indispensable with regard to the recognition of affordances. Distraction, and its atavistic potential for disruptive and divergent non-linear thought, appears an ideal transitory state in which attention precedes intention¹⁰ thus providing possibilities for the subversion of technologies and furthering the interconnection of the human agent with the less obvious cognitive or physical affordances.

Distraction as the polar opposite to concentration, as proposed by Benjamin, Arendt and Zhon (1968:232), is a simplistic perception of distraction and an example of a false binary (North, 2011). Crary (2000) produces a convincing argument against this oft-assumed binary opposition by offering an alternative view,

I argue instead, that attention and distraction cannot be thought of outside of a continuum in which the two ceaselessly flow into one another, as part of a social field in which the same imperatives and forces incite one and other.

Crary (2000:51)

Helmholtz gives an account of subjective vision that will be familiar to all classroom teachers and students within a technology rich-environment,

¹⁰ Husserl's attentionality/intentionality debate is beyond the remit of this study.

It is natural for the attention to be distracted from one thing to another. As soon as the interest in one object has been exhausted, and there is no longer anything new to be perceived, it is transferred to something else, even against our will. When we wish to rivet on an object, we must constantly seek to find something novel about it, and this is especially true when other powerful impressions of the senses are tugging at it and trying to distract it.

Helmholtz (1962:498)

North (2011:5), in the prologue of his comprehensive philosophical exploration entitled 'The Problem of Distraction', re-presents and reverses a familiar descriptor of the hectic interconnected world of the twenty-first century by stating that 'The age of distraction, it turns out, was always but the age of attention.'

My hypothesis is that distraction is the primary driver of change and therefore the *genesis* invariant in the process of creative thought and the creation of new epistemologies. Distraction, to or from, is an atavistic response, and, as such can be seen as analogous to a lightning rod, illuminating changing phenomena and their potentialities as either positive or negative affordances. Distraction, in this instance, is described as an unintended and usually abrupt shift in perceptual attention triggered by exterior (physical events) or internal stimuli (disruptive thoughts) or a synthesis of the two.

Distraction, when viewed simply as a shift in attention, becomes an inviolable constant, both a prerequisite and inceptor of perceptual change. Davidson (2011) promulgates such a counter-intuitive re-evaluation of distraction and its function and explores the primacy of distraction in the process of learning new things and in 'un-learning'. Distraction is most certainly an essential survival mechanism but it can also act as a reflex evolutionary trigger for, and precursor to, exploration, curiosity, abstract thought, bi-association (Koestler 1964; Shettleworth, 2010, Wiggins *et al.*, 2015), creativity and the creation of 'new' knowledge. To be surprised, startled, attacked or in some way unexpectedly disrupted all require an attentional shift, commonly referred to as 'distraction'. I would posit that distraction atavistically opens in the subject a creative porthole as an autonomic survival response (Ramirez-Moreno & Sejnowski,

2012) to the available affordances and the potentialities presented by the stimulus and the surrounding environment. Simply put, necessity begets invention.

Dennett (1993) exemplifies the aforementioned 'autonomic survival response' via his 'All hands on deck' metaphor courtesy of Neumann (1990) who refers to the unexpected disruption and reciprocal attentional shift as an 'orienting response' (Pavlov, 1927) which Neumann speculatively, though convincingly claims is,

... elicited by a sufficiently sudden and/or intense and/or important change in the environment. The orienting response has several components: on-going activity is interrupted; there is an increase in general arousal; and the animal turns towards the source of stimulation.

Neumann (1990:11)

The hard problem of human creativity appears, from both inductive and deductive perspectives, to be inextricably intertwined with possibly the 'hardest of the hard' problems: consciousness and its evolution. Neumann continues with his plausible 'evolutionary-just so' story by suggesting that consciousness could have emerged through an evolutionary co-option of various mechanisms into exaptations (Gould and Vrba, 1982; see Garner 2014:12)

The main suggestion is that consciousness has evolved from simple roots in a type of evolutionary process that is called exaptation by biologists. It refers to the commonly observed case that, during evolution, already existing mechanisms come to be used to serve new functions.

Neumann (1990:11)

Neumann then suggests that during the process of evolution higher vertebrates modulated this somewhat primitive orienting response to the external environment and developed it into an oscillatory exploratory activity. Unlike the original sensorial (*Koine asthesis*) orienting response, this is internally controlled behaviour that serves to "update the internal representation even in the absence of specific eliciting [external] stimuli." (Neumann, 1990:12).

When consciousness is seen as the descriptor of the creative process and the creative process is seen as the cognitive engine of consciousness itself they become two sides of the same cognitive coin, epistemologically linked. The conjoint emergence of consciousness and creativity from a process and developmental perspective (Cooperstein, 1985), however haphazard, must have begun in symbiosis with the natural environment, thus enabling consciousness to creatively respond to, and exert change upon both external (physical) and internal (psychic) environments with incremental complexity by building on the phylogenic adaptations, ontogenic accretion and storage of novel ideas and their applications.

Consciousness, if we indulge amongst others Dennet (1993), Neumann (1990) and Miller (1983), could have arisen as a surprising or unexpected outcome of an adaptation, or exaptation(s). The creative process, similarly elicits surprising, unintended or unexpected outcomes, derived from the juxtaposition or cognitive mapping (Grace *et al.*, 2012) of invariant perceptual affordances (Gibson, 1979) within an association-based creative system, or, put rather more provocatively, a consciousness.

The basic associative processes that hypothetically drove and bind curiosity, creativity and consciousness with, and to external stimuli, appear to resonate within the new-found ability to self-reflect (Hofstadter, 2007). Ginsburg & Oppen (1969:39) highlight the importance of differentiation and point out that what determines curiosity is “not the physical nature of the object, but rather the degree to which the object is discrepant from what the individual is familiar with”. Dennet colloquially attempts to illustrate the Kuhnian shift (1962) required of humans to progress from 'Dasein' (Heidegger, 1962) as that of grazing omnivores into becoming creators and foraging consumers of information.

This marked a rather fundamental shift in the economy of the organisms that made this leap: the birth of curiosity, or epistemic hunger. Instead of gathering information only on a pay-as-you-go, use-it-immediately basis, they began to become what the psychologist George Miller (1983) has called 'informavores': organisms hungry for further information about the world they inhabited (and about themselves).

Carr (2010:138) accelerates Miller's 'Informavore' argument somewhat further forward and in so doing introduces the "in-between" the interface of Janus (Floridi, 2014)

'What we're experiencing is, in a metaphorical sense, a reversal of the early trajectory of civilization: we are evolving from being cultivators of personal knowledge to being hunters and gatherers in the electronic data forest.'

Carr (2010:138)

Boden (1990, 2004) prefers the more colloquial term 'surprise' as a substitution for the more problematic 'distraction', thereby avoiding the false semantic paradox of distraction being a form of attention, and yet being generally perceived as its opposite. Boden describes creativity as "the ability to come up with ideas or artefacts that are *new, surprising and valuable*." (2004: 1). Boden then triages the stages of surprise in order of explicability:

1. The first involves making unfamiliar combinations of familiar ideas
2. An unexpected idea may 'fit' into a style of thinking that you already had.
3. This is the astonishment you feel on encountering an apparently *impossible* idea.

Abridged from Boden (2004:2–3)

Koestler (1964:121) describes his bi-associative pattern of creative synthesis as "the sudden interlocking of two previously unrelated skills, or matrices of thought": this equates to Boden's first order of creative synthesis and, as such, they are referred to as 'novel' or 'unfamiliar' combinations. Boden's acknowledgements of Koestler's contribution to the field, its prescience and academic durability are many. However, Boden (2004:40) tempers her reverence by quoting Hadamard (1949:29), as did Koestler (1964:120). Boden appears to do so to suggest earlier scholars had thought through the combinatory concept, thereby reducing Koestler's bisociative theory to a conflation of the process with its definition.

Hadamard, for example, wrote: 'It is obvious that invention or discovery, be it in mathematics or anywhere else, takes place by combining ideas.' Poincaré agreed, as we have seen. Koestler conflated the explanation of how creativity happens with the definition of what it is: the bisociation of normally unrelated matrices.

Hadamard in Boden (2004:40)

Digital Distraction model compared to Hadamard's four phase model after Poincare

Inaction> Distraction> Curiosity> Affordance > Creative action

Preparation-----Incubation-----Illumination-----Verification

Figure 4 – Comparative Model.

Davidson's (2011) position on distraction is encapsulated in the quote below,

In the end, distraction is one of the best tools for innovation we have at our disposal for changing out of one pattern of attention and beginning the process of learning new patterns. Without distraction, without being forced into an awareness of disruption and difference, we might not ever realize that we are paying attention in a certain way. We might think we're simply experiencing all the world there is.

Davidson (2011:55)

Curiosity and Exploration

Animals spend much of their time seeking stimuli whose significance raises problems for psychology.

Berlyne (1966:25)

If an animal is placed in a new environment, actual or Virtual, or perceives unknown objects, it will begin to explore (Buchholtz, 1994:44). Tomkins (1962:498) describes surprise as “a general interrupter of on-going activity. Izard and Buechler (1980) impress that surprise replaces other emotions to enable the execution of processes that ameliorate the discrepancy between the event and the schema.

Descartes (1911) and Darwin (1872) both stress the involuntary focusing of attention as a fundamental characteristic of surprise. According to Niepel *et al.*, (1994) surprise does not require a complex analytic response. Surprise elicits a simple compatibility check of extrinsic events within the proximal environment and schemata.

'Exploratory behaviour refers to activities by which actors keep in touch with the environment in the search for information.' (Smitsman, 1994:261). Smitsman elaborates,

Exploratory activity originates from the need to coordinate action properties to environmental properties rather than from the need to reduce uncertainty. Reduction of uncertainty may be an effect of exploratory activity but not necessarily the motivating cause.

Smitsman (1994:261)

Technology genesis and its expansion appear to be analogous and underpinned by the mechanisms of exploratory or curiosity driven behaviours. Berlyne asserts that curiosity is aversive (Berlyne, 1960; Keller *et al.*, 1994, 2012). Freddie a research respondent concurred and alluded to the fact that technology was driven by a 'lack of something', this lack of something within a psychological paradigm is classed by Berlyne (1966) as either epistemic, that is, a lack, which drives a desire for knowledge in order to return an unstable schemata via some form of homeostatic¹¹ (Jellestad *et al.*, 1994) response to a tolerable position, or a perceptual lack, which Berlyne

¹¹ Cannon's (1932) concept of homeostasis started out from an idea put forward by the nineteenth-century French physiologist, Claude Bernard, namely, that we have to adapt to events in our "internal environment," as well as to events in the external environment, and that the fixity of the internal environment is a prerequisite to survival Berlyne (1978:108). This position resonates with Merleau-Ponty's concept of embodiment and the reciprocity of Material Engagement Theory (Malafouris, 2013)

(1954:180) describes as “the curiosity which leads to increased perception of stimulus”.

Berlyne (1960:26) creates another reciprocal homeostatic binary by compartmentalizing exploratory behaviour into diversive, driven by boredom or sensation (stimulus)-seeking, to “seek stimulation regardless of source or content' or as Specific and epistemically driven. Litman (2008; Litman & Jimerson 2004), after Lowenstein (1994), extends Berlyne's work by positing further delineations by suggesting that exploration induced by interest (I-Type) is different from exploration driven by the elimination of deprivation (D-Type). Curiosity¹² and exploration whether classed as epistemic or perceptual all have their similar proponents and subtle differences (Grossnickle, 2016). However, the different exploratory behaviours, to use Berlyne's phrase, 'collate', to varying degrees to eventually produce a continuous interaction, or collation of the inner system of the organism with the outer system of the environment and *vice versa*.

In bio-psychological logical-positivist terminology a homeostatic response appears to be analogous to the balanced, interwoven phenomenological reciprocity between the agent and the environment requisite within a state of embodiment.

Ursin (1978, 1988) concludes, via his research on novelty detection, that the brain functions as a homeostatic system regarding information and its acquisition.

[Ursin] has suggested that the brain functions as a homeostatic system for information. Whenever there is a discrepancy between the set values and the actual values for a given variable, activation or arousal is produced. This response serves to turn itself off. Behavior is elicited which should lead to the discrepancy being eliminated, and normal arousal levels re-established.

Jellestad *et al.* (1994:74)

¹² Taking into account the themes of need for knowledge, exploratory behavior, collative variables, and emotions and arousal, curiosity may now be defined as the desire for knowledge or information in response to experiencing or seeking out collative variables, which is accompanied by positive emotions, increased arousal, or exploratory behavior. This revised definition, particularly in terms of its focus on knowledge and information, reflects the emphasis of this review on epistemic curiosity and curiosity in educational settings. Grossnickle (2016:37)

James J. Gibson provides an unexpected phenomenological connection between Dewey (1910) and his theory of experiential learning. As according to Reed (1988), in Smitsman, (1994), Gibson performed an experiment showing the effectivity of perceiving by touch alone. In one variant the observers had various household cookie-cutters pressed or rotated in the palm of their hand and in the other variant, the observer did not have the sensation imposed, but actively touched the cutter themselves in order to experientially ascertain its visual shape. When the observer could actively touch the cutter the results were almost perfect. When the stimulation was imposed, the identification of the cutter's shape dropped significantly.

Smitsman (1994) in his analysis of Gibson's experiment, also provides, when seen through an inter-disciplinary prism, a typically reductive psychological perspective on the bio-psychological underpinnings of experiential 'hands-on' learning and by extension, the essence of material engagement theory (Malafouris, 2013) and other active learning theories such as Latour's actor network theory.

Gibson's experiment on active touch indicates that a passively registering sensory system is of little or no use to a person who needs to be aware of what is going on. The value of the system improves when the stimulation varies across time. However, to function optimally, the system needs to be active. Apparently stimulation has to co-vary very carefully with the exploratory activities that are employed by the system itself to make perceiving successful.

Smitsman (1994:262)

Curiosity

Grossnickle (2016) expounds on various genesis theories concerning the exploratory behaviour termed 'curiosity'. Firstly she observes that curiosity has been explicitly linked to the theory of drive reduction, and as such can be regarded as an appetite that requires satiation (Berlyne, 1954, 1960; Schmitt & Lahroodi, 2008; Von Stumm, 2016). Secondly, she notes that optimal arousal theories posit that curiosity is a pleasant state of equilibrium in which agents pursue a 'goldilocks' degree of novel experience that is neither too distressing nor too boring (James 1890/1950; Berlyne, 1960; Spielberg & Starr, 1994). Finally, Lowenstein (1994) proffers a knowledge-gap

model that proposes a synthesis of the above theories by promulgating that curiosity manifests itself during the attempted identification of unknown information.

Added to the global theory-based definitions of curiosity propellants, it must be remembered that personal levels of exploratory behaviour offer a bi-dimensionality and differ in intensity according to the individual (Beswick & Tallmadge, 1971; Litman, 2005). The dimensions differ in terms of whether the desire occurs frequently as a result of internal characteristics, described as, 'trait curiosity', or as a resulting in an exchange with the environment, described as, 'state curiosity' (Grossnickle, 2016). State and trait curiosity are significantly linked and the frequency of experience varies according to the degree to which an individual is considered high or low in trait curiosity (Kashdan, 2004; Naylor, 1981). Grossnickle offers a short summation.

Conceptions of curiosity as a drive to be satisfied...and as an experience that coincides with fear...suggest that initially, curiosity may have been viewed as consisting of more negative emotional responses than interest. However, differentiation of curiosity into I-type and D-type have found that D-type retains some of the original presuppositions of negative affect, while I-type curiosity is more closely linked to the emotions and arousal of interest (Kang *et al.* 2009). Additional investigations will be needed to further differentiate these affective and arousal components.

Grossnickle (2016: 49)

Interestingly, whilst both trait and state forms of curiosity have been researched and shown to be strongly associated (Kashdan & Roberts, 2004; Reio *et al.*, 2006), there are educational implications. Litman (2005) has shown that state curiosity possesses a unique capacity to positively affect learning and behaviour, the inference being that the state can be influenced by a manipulation of the environment whereas the phylogenic and ontogenic trait, that is the genetically imprinted propensity for exploratory behaviour, is far less malleable. The majority of studies on curiosity and exploratory behaviours, according to Arnone *et al.* (2011) and Grossnickle (2016), have concentrated on trait curiosity, rather than the more manipulative, state curiosity. The issues with inter-disciplinary research and relative subjectivity, indeed even the limitations of Gibson's haptic 'cookie-cutter' experiment, are highlighted in the story of

the six blind men and the elephant as a metaphor for 'the behavior of experts in fields where there is a deficit or inaccessibility of information, the need for communication, and respect for different perspectives' Garrett & Zimmermann, (2014:86).

It is a story of a group of blind men who touch an elephant to learn what it is like. Each one feels a different part, but only one part, such as the side or the tusk. They then compare notes and learn that they are in complete disagreement.

Wikipedia (Blind men and an Elephant, n.d.)

Dewey (1910) suggests that identifying what individuals find curious, not whether they are carry the curiosity trait may hold the key to unlocking innate curiosities that could predispose the student to productive learning. Educators can also pique curiosity by subtle manipulations of the learning environment, by understanding the situational factors and differentiating for individual exploratory potentials (Grossnickle, 2016:54)

Walker in his preface to Berlyne's unfinished and posthumously published 'Curiosity and Learning' (1978:98), addresses, from a cognitive perspective, Berlyne's kernel question regarding arousal alleviation and whether such alleviation promotes learning. Walker is in no doubt that had Berlyne lived to complete 'Curiosity and Learning' he would have proven the link. Walker encapsulates Berlyne's core position by stating "cognitive uncertainty leads to increased arousal and exploratory behaviour. When that behaviour leads to resolution of the uncertainty, learning occurs and knowledge is gained." Walker (1978:98).

[Paperback Writers](#)

Since embarking upon my doctoral studies in October 2010 I have encountered a marked and continued increase in what I would term, Internet focused popular science books (Bartlett, 2015; Burgess & Green, 2009; Carr, 2010; Davidson, 2011; Goleman, 2013; Greenfield, 2015; Keen, 2012, 2015; Susskind & Susskind, 2015) with each author offering an idiosyncratic perspective on the individual attentional effects and societal impact of our engagement with new technologies and continued consumption of digital information as "hyper-palatable mental stimuli" Crawford (2015:19).

Crawford's (2015) argument revolves around the premise that there is a crisis of attention in Western culture and in order to rebalance attentivity, meaningful connections with the world need to be sought. This, according to Crawford, precipitates the need for an overt interdisciplinary interconnectivity to be made between the findings of the ecological psychology of Gibson (1979) and the phenomenological philosophies of Merleau-Ponty (1945). This thesis and its literature review have gone some way to addressing Crawford's perceived lacuna.

The current field of 'ecological psychology' that takes Gibson as its inspiration may just as well be read as a working out of suggestions offered by Maurice Merleau-Ponty, Alfred Schutz, and Martin Heidegger— that is, by the school of phenomenology that formed about a century ago. The literature on embodied/ embedded/ grounded/ extended cognition; ecological psychology; the move toward 'enactivism'... in these literatures, one hardly ever sees references to the phenomenological writers, yet the most fruitful lines of argument emerging from them appear to be (largely surreptitious) borrowings from this philosophical tradition.

Crawford (2015:263)

Burgess and Green (2009) discuss YouTube and the role of video in online participatory culture. Burgess pragmatically defines YouTube's place within popular culture as the "two YouTube's" (Burgess and Green, 2009:41), an early reference to the appropriation of the "broadcast yourself" space created by YouTube by professional content-providers for advertising purposes appearing alongside 'user-created' materials. Burgess critically engages with the issues surrounding control, authority and cultural production and its consumption.

Hyde (2007:xxi in Burgess and Green, 2009) optimistically argues that YouTube should function as a 'gift economy', as an alternative to commodification. The gift economy would, he suggests, be one that revolves around reciprocity and be shaped by "the obligation to give, the obligation to accept and the obligation to reciprocate". This laudable, yet, in hindsight, naive proposition posited in 2007 is outlined by Hyde as follows,

Unlike the sale of a commodity, the giving of a gift tends to establish a relationship between the parties involved. Furthermore, when gifts circulate within a group, their commerce leaves a series of interconnected relationships in its wake, and a kind of decentralized cohesiveness emerges.

Hyde (2007:xx)

However, circa 2016, YouTube, the company, and YouTubers have now transformed the free exchange of cultural gifts into an attention economy monetized by advertizing revenue (Burgess & Green, 2009). Despite the books predictive failures, Burgess and Green's contribution the popular YouTube literary canon is valuable, not least because of the depth of research and its published proximity to YouTube's inception in 2005.

'The YouTube Reader' Snickars and Vonderau (2009) covers similar academic ground to Burgess and Green (2009). However, 'The YouTube Reader' contributors appear to favour the philosophical over pragmatic perspectives. Snickars and Vonderau's sections on the issues of archiving, storage, retrieval and non-curated space are however explored in depth. Conversely, Greenfield (2015) approaches the intersection between user and technology from a psychobiological neuro-scientific standpoint. She methodically considers the neurological adaptations that are being wrought by our increasing exposure to new and increasingly immersive digital environments and postulates the implications. Bartlett (2015) explores the future of Internet surveillance. Carr (2010) warns against an overreliance on technology and Susskind and Susskind (2015) discuss the impact of new technology on the role of professionals. Keen (2012, 2015) offers a compelling, yet profoundly negative dystopian vision of the future under the dominance of technology.

By way of a graphic summarization I again offer a Gestalt image (see Figure 5) this time with sematic indicators as visual representations of the inter-changeability and interconnectedness of the theoretical foci as realized within the review of the literature.

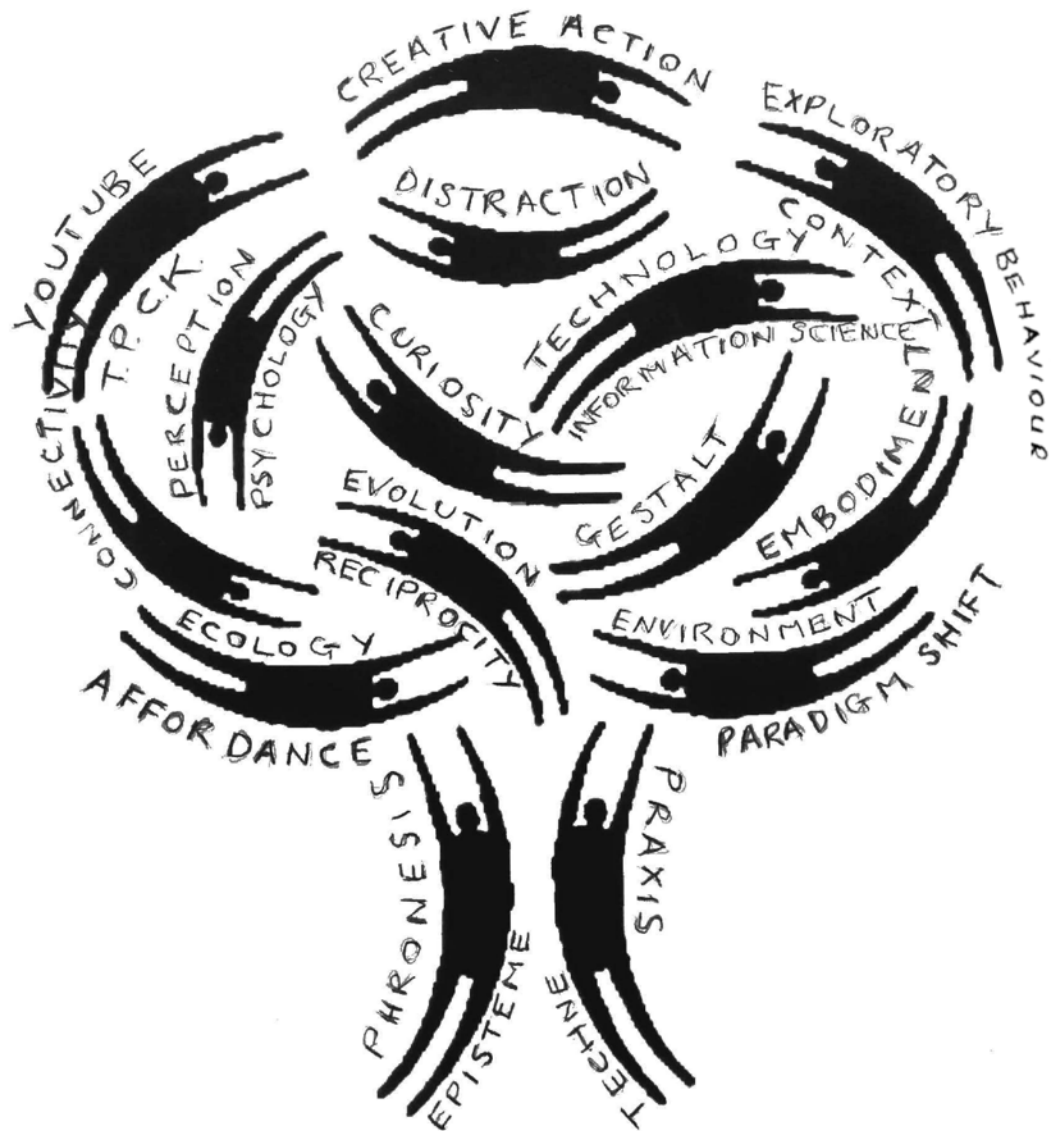


Figure 5 - A Gestaltian Paradigm

6. Methodological Underpinning and Approach

Interpretative Phenomenological Analysis

After investigating the possibility of conducting this research purely using induction (Glaser & Strauss, 1967) to generate theory, I concluded that grounded theory was unsuited to the sample size and that the data would, in all probability, not reach saturation point.

In contrast interpretative phenomenological analysis (IPA) proved itself a better match to the intended research, as it is a fusion of apposite literature with inductive theory.

This, I believe will produce a form of qualitative analysis (Sherman, 1988) that is ideal for an under researched area such as Music practitioner experiences of YouTube (Snelson, 2016). IPA is therefore, a methodology matched to the research questions below.

Research questions:

1. How do professional music educators, through their lived experience, navigate YouTube and assimilate the affordances of YouTube into their professional music praxes?

1.1 Have professional music educators experienced a paradigmatic shift in how they, as musicians, learn, teach and share music since the advent of YouTube?

1.2 How valuable in the experience of the participants, is YouTube in directly influencing or informing their professional practice within the classroom?

IPA is an approach to qualitative research directly concerned with the exploration and understanding of the lived experience of a specified phenomenon (Smith, 2004). Cassidy *et al.* (2011:2) regards IPA “as a methodology in its own right rather than simply a means of analysing data”. Cassidy (2011:2) reiterate the position held by Smith (2004), defining IPA as a qualitative research approach that “involves detailed examination of participants' 'lifeworlds'; their experiences of a particular phenomenon, how they have made sense of these experiences and the meanings they attach to them.”

IPA constructs its epistemological framework and research methodologies via three complementary areas within the philosophy of knowledge: phenomenology, hermeneutics and ideography. Phenomenology is primarily concerned with how the world manifests itself via our experiences and “what the experience of being human is like, in all of its various aspects, but especially in terms of the things which matter to us, and which constitute our lived world.” (Smith *et al.*, 2009:11). Husserl (1859–1938) initiated modern phenomenology and this was extended by the concept of embodiment promulgated by Merleau-Ponty and other philosophers, such as

Heidegger and Sartre. The fundamental position of all phenomenological investigation is an intense focus on the world and the subjective experiences of human agents within it.

Langdridge (2007) views phenomenology as both a philosophy and also a family of research methods concerned primarily with the human experience, its understanding and exploration. IPA, though principally inductive, requires a literature review. This research supports an extensive literature review of the phenomena in question, in this case the fundamentals of perception and exploratory behaviours in direct relation to the lived experiences of musicians as music educators and their experience of YouTube expressed in their own words (Smith *et al.*, 2009). The literature review is essential in enabling the identification of lacunae in the academy's current knowledge regarding a particular phenomenon. During this IPA research I attempted to 'bracket' my preconceptions and attended to each participant separately. Cassidy *et al.* (2011) elucidate Smith and Osborn's (2008) position on 'bracketing',

In some forms of phenomenology i.e. those grounded more strongly in Husserlian rather than Heideggerian philosophy, the researcher attempts to bracket (or set aside) pre-defined theories and assumptions at this design phase so that data collection can be truly exploratory and participant led...crucially the IPA researcher should aim to follow the participant in novel and unanticipated directions as the story of their experience unfolds.

Cassidy *et al.* (2011:4–5)

Hermeneutics is the theory of interpretation that provides the second theoretical strand that underpins IPA. Rennie (1999) defines hermeneutics as both the *Theoria* and *Praxis* of the interpretation of the meaning of texts. Shinebourne (2011:4) suggests that the process of interpretation is to “engage in the dynamic of ‘conceal and reveal’ making manifest what may lie hidden”. According to Smith and Shinebourne (2009a) the hermeneutic process is similar to the central tenets of ‘reader response theory’ (Fish, 1980) in that it is envisaged as “dialogue between what we bring to the text and what the text brings to us” (Smith & Shinebourne, 2009:26). Cassidy *et al.* (2011:9–10) contend that “hermeneutics as applied to IPA is concerned with personal texts that are co-constructed by the research participant and the

researcher, in the present-day, and usually face-to-face. Meaning unfolds during the construction as well as during the analysis of these 'texts'". Smith *et al.* (2009:37) articulate the inextricable interdependence that exists between hermeneutic interpretation and phenomenology within IPA stating that "without the phenomenology, there would be nothing to interpret, without the hermeneutics, the phenomenon would not be seen".

The final element of IPA and essential analytic component of this research is idiography. Idiography is concerned with the 'particular' (Eatough & Smith, 2008; Smith, Flowers & Larkin, 2009; Smith, Harré & Van Langenhove, 1995). This places idiography in direct contrast to nomothetic investigatory practices, which are concerned with generating generalizable scientific laws and make claims at group or population level. Smith *et al.* (2009) subdivide IPA's operational use of the 'particular' into detail within context,

IPA's commitment to the particular operates at two levels. Firstly, there is a commitment to the particular, in the sense of detail, and therefore the depth of analysis. As a consequence, analysis must be thorough and systematic. Secondly, IPA is committed to understanding how particular experiential phenomena (an event, process or relationship) have been understood from the perspective of particular people, in a particular context.

Smith *et al.* (2009:29)

Furthermore, IPA enables, by using small sample numbers and a purposive homogeneous selection strategy, contextualised detail via an in depth bi-level idiographic exploration of the respondents as practising music educationalists and their lived experience as they learn, share and teach within what, according to this thesis is, a shifting paradigm of technological leverage, affordance and appropriation. As Smith *et al.* (2009:3) clarifies 'IPA studies are conducted on relatively small sample sizes, and the aim is to find a reasonably homogeneous sample, so that, within the sample, we can examine convergence and divergence in some detail'".

One of the central tenets of the IPA is to imagine that you are metaphorically in the 'shoes' of your respondents and to try and understand the world from the perspective

of the participants (Perryman, 2011). I must immediately position myself as an 'insider' as I feel I am and have, throughout the research process, ethnographically embedded myself as tacit participant researcher due to my music education profile which aligns perfectly with that of the assembled purposive sample.

IPA...seeks an insider perspective on the lived experiences of individuals, and is interpretative in that it acknowledges the researcher's personal beliefs and standpoint and embraces the view that understanding requires interpretation.

Fade (2004:648)

I consider this 'insider' parallelism between myself as researcher and myself as the researched an uncommon variant not found within many IPA studies, and I would contend it allows for exceptional depth of analysis, despite the high probability of bias and preconception, especially when employing the 'double hermeneutic', a term used by Smith and Osborn (2003:51). This term 'double hermeneutic' refers to a specific type of dual interpretation whereby the participants explain and self-interpret their own lived experience. The researcher then offers their explanation of the participant's self-interpretation, and then, further interprets the meaning behind the participant's account via the analysis and writing up.

As Cassidy *et al.* (2011:7) point out "IPA will always be indicative and provisional rather than absolute and definitive because the researchers themselves, however hard they try, cannot completely escape the contextual basis of their own experience". However, the "biographical presence" (Smith, 2004:45) of the researcher is essential to make sense of the experiences revealed using her own contextual locus to fuel insight, whilst trying to be transparent and explicit about the influences of their position and subsequent analysis and interpretation of the narrative (Finlay, 2008).

Therefore it is essential to be mindful of Heidegger's (1962) position that recognizes that any interpretation is mediated, influenced and possibly jeopardized by the interpreters pre-existing knowledge. In order to obviate this obstacle to the interpretation process Smith and Shinebourne (2009) after Heidegger, (1962) suggest the prioritization of the new objects of information over the interpreter's preconceived ideas. As Smith (2004:40) points out, "the participant is trying to make

sense of their personal and social world: the researcher is trying to make sense of the participant trying to make sense of their personal and social world.”

The immanent reciprocity between the self, as practitioner, and the environment is further distilled by the researcher’s analysis of the practitioner’s analysis, which exemplifies the ‘double hermeneutic’ principle. As an experienced music practitioner and educator the lived experience and context of the participants is identical to my own position. Eatough and Smith (2008:84) maintain that despite IPA being firmly rooted in the experiential, it “endorses social constructionism’s claim that sociocultural and historical processes are central to how we experience and understand our lives, including the stories that we tell about these lives.”

Finally, Smith *et al.* (2009:55) offer advice to those who are entering the complex arena of qualitative research. They equate the word ‘complexity’ with the actuality of the unpredictability and “messy chaos of the lived world” and the inevitable inability of the researcher to tame or contain it. Smith *et al.*’s (2009) final thoughts on the research practitioner and what is required of a successful IPA researcher are quite basic. He simply suggests that the aim is to understand our research participant’s perspectives as best we can.

The underlying qualities required of the IPA researcher are: open-mindedness; flexibility; patience; empathy; and the willingness to enter into, and respond to, the participant’s world. Investigations beginning from an IPA perspective should follow these principles wherever possible. At the same time, the researcher also needs determination and persistence and curiosity.

Smith *et al.* (2009:55)

Why IPA?

The research aims and research questions have been rehearsed and have gradually accreted throughout my doctoral journey. I have rigorously applied my learning from the Methods of Enquiry Modules 1 and 2 to further interrogate the relationship between technology and music educators and education, and continued to cognitively map technology, creativity, autonomy and music within my Institute Focussed Study

(Garner, 2014). From this secure platform my academic output now extends through this thesis to how musicians learn, teach and share using YouTube.

I am confident that I have matched the methodology to the pre-existing research aims and questions and not the other way around: forcing a highly interpretive methodology inappropriately onto a research question for which it was not suitable would cause severe problems in the projects execution and outcomes (Barker *et al.*, 2002; Punch, 2006).

Throughout my six years of study, critical thinking and creative thought processes, both convergent and divergent, have proved essential. This criticality, coupled with intuitive and practiced interpretive skills, made IPA not only suited to my academic strengths but highly suited to the rationale of the thesis, which is intended to reveal the lived experience of musician educators and their often duplicitous or hidden relationship with YouTube as a knowledge propellant.

Methods

I realised that in order for IPA to be successful and avoid the slippage into thematic analysis (Braun & Clarke, 2006; Rapley, 2007; Smith *et al.*, 2009) full data immersion would be required. I immersed myself over a contiguous three-month period via audio recording, self- transcribing, reading of transcriptions and initially freely-associating with analytic ideas in the margins (see Appendix 2). Then I gradually increased the depth of the analysis with each sweep of the transcripts. As an indicator of the analytic process and timings I colour-coded and hand-dated the original transcript and have provided a key to enable the reader to track my analytic process from inception (Subordinate themes, Table 2.) to completion (Master Themes, Table 12.). This helps signpost my analytic journey by illuminating my initial thoughts, through to the highly interpretive and transcript-supported, deeper, double hermeneutic process. Providing the reader with the opportunity to track back into the original transcription for the essence of the interpretive provenance is an essential component of the analytic process and a rare but essential validation point made available to prevent overt idiosyncratic bias (Appendix 1 and 2).

IPA is suitable for a participant population of between one and approximately ten. Reid *et al.* (2005) suggests that depth is preferable to breadth and that fewer participants prevent IPA from being conflated with thematic analysis or grounded theory. Given this thesis is submitted in partial fulfilment of the requirements for a professional doctorate I decided that between six and ten participants would meet the requirements of the relevant examining body and prove manageable for a part-time doctoral student (Smith *et al.*, 2009).

I conducted two pilot interviews. The first with Isaac (Appendix 1: 125–169). Isaac highlighted my hubris and my inexperience equally. I spoke at length during the interview, often pre-empting the participant's answers and asking questions that readily revealed my bias. Added to my lack of interviewing skills the interview lasted over three hours and took over 20 hours to transcribe. Interestingly Isaac was the only anomalous participant, in that he was essentially a full-time peripatetic teacher working within a state school environment and not a qualified teacher of music within the 11–16/19 years sector. Isaac's responses diverged from those of the other participants, thus highlighting that for IPA to have the possibility of distilling the general from the 'particular', then the sample must be homogenous. Achieving a homogeneous sample was not an issue as the remaining participants were partly recruited through 'snowballing'. 'Snowballing' is a term coined to indicate that one suitable participant will often recommend another of the same or similar required profile, especially if they work in close proximity.

However, the second pilot, George (Appendix 1:73–86) provided very rich data indeed and my interviewing technique had improved immeasurably. This then left a purposive sample of eight participants enabling the idiographic element of IPA to remain uncompromised. All the remaining participants are fully qualified music educators and currently working (2016) in either the state or the private sector with one candidate at a private overseas school (please see Interviewee Key table 1.).

For such a small accreditation study with a limited word count, I took Smith *et al.*'s (2009) advice and did not use a control group despite its desirability and the fact that it is generally considered best practice. The difficulty of increased numbers being that it can return the process of IPA to a merely providing a description of events, which was

not my intention when choosing IPA as my methodology. IPA links into the review of literature that contains many references to phenomenology, primarily through my comparative literature search on J.J. Gibson and Merleau Ponty. I decided to focus on the divergence and convergence within the participant group of music practitioners by firstly bracketing each case and then making case-to-case or grouped case comparisons of how the phenomenon in question, that is, YouTube usage was similar or dissimilar.

I developed my semi-structured questions (Appendix 6) from Csíkszentmihályi's (1996; Appendix B) interview protocols used in the study that informed his seminal text 'Creativity: Flow and the Psychology of Discovery and Invention'. Again this choice was a purposive link with the literature review, as creative action and exploratory behaviours are integral to this research and feature throughout. I kept to three sections of semi-structured questions; (warm-up) musical beginnings, Working habits/insights and final thoughts. I used just 11 questions with subsections as prompts. However, in keeping with the necessary flexibility of IPA, and as can be seen within the transcription, I often pursued interesting tangents and also allowed the participants the latitude to show me their experience through the uninterrupted recounting of their individual, idiographic journey. The more I interviewed, the better I became at raising my awareness of the delicate, yet important balance between leading and following and thereby allowing the respondents understanding of the phenomenon in question not to be eclipsed by unchecked researcher bias (Smith *et al.*, 2009).

Once beyond the first free-associative analysis of the first analytic read-through I began to search, through the second and third iteration of accreted and colour-coded analysis notes, looking for emerging themes (Table 2.) The emergent themes came through very strongly, and I placed the subthemes below each main emerging theme in bold type. I then analysed each transcription in alphabetical order starting with participants' pseudonyms: Alfie, Billy and Colin etc. Each of the participants was analysed in considerable depth to look for connections and, where appropriate conceptual links to the relevant literature through diligent application of the double hermeneutic process.

Smith *et al.* (2009:87) suggests using a set of non-prescriptive analytic tools, which break the process down into discrete processes. Smith offers by way of example,

Descriptive comments focused on describing the content of what the participant has said, the subject of the talk within the transcript (normal text). Linguistic comments focused upon exploring the specific use of language by the participant (*italic*). Conceptual comments focused on engaging at a more interrogative and conceptual level (underlined).

Smith *et al.* (2009:87)

As explained, I have opted for a colour-coded and dated system, which allows the reader to track the time and most importantly the depth of the analytic process. After each analyses of each participant had been completed, with extracts used as exemplars included in the analyses to support each theme I produced a table of superordinate themes with the subordinate or sub themes below. The subthemes support the superordinate theme and were visible in the original transcription as supporting subthemes to the superordinate theme eventually selected. Once all the individual superordinate tables were completed for the individual cases, I synthesised the superordinate themes into the master theme table.

I was satisfied that I had narrowed down the plethora of superordinate themes succinctly and cogently into just three master themes with a supporting thematic below, triaged in order of importance. Getting the abundance of data into three master themes suggests a thorough synthesis of the analysis and this enabled me to write up the research in a focused, yet interpretive way, and to reach a conclusion. Dickson, Knussen and Flowers (2008) recommend a maximum of three master themes as they maintain it demonstrates a profound engagement gained through a thoughtful reduction of the data.

Validity

Validity within the sphere of qualitative research, especially IPA will always be an issue (Silverman, 2001, 2007; Smith, 2010, 2011; Yardley, 2000, 2008). Hefferon and Gil-Rodriguez (2011:758) suggests that the four main principles to consider regarding

validity involve attention to “sensitivity to context; commitment and rigour; transparency and coherence; and impact and importance”. Avoiding the tendency to want to achieve a generalizable outcome has not proved an issue with this research project as the deductive, indicative literature and the considerable amount of inductive 'grounded' literature generated through the empirical data and the double hermeneutic interpretative phenomenological analytic process has enabled a working transference of findings from, and to, very disparate disciplines. Hefferon and Gil-Rodriguez (2011) deftly and usefully position IPA within the logical positivist realm and reasonably suggest a complementary role for the qualitative within the world of the quantitative.

Thus it can be argued that idiographic qualitative research such as IPA has much to contribute to our understanding of phenomena, as it can complement actuarial claims derived from quantitative studies through a focus on the particular, which can help illuminate the universal

Hefferon and Gil-Rodriguez (2011:758)

In the spirit of Hefferon and Gil-Rodriguez’s affirmation of IPA's illuminatory role in generalizability, I would invite the reader, as a comparative study is beyond the scope of this thesis, to test the veracity of Hefferon and Gil-Rodriguez assertion that IPA can indeed “complement actuarial claims derived from quantitative studies...” This could be done by comparing this qualitative study ‘The YouTube effect: a Paradigm shift in how musicians learn, teach and share?’ and its findings, derived through a rigorous process of interpretative phenomenal analysis with the comprehensive and exhaustive six-part, mixed methods study by Purcell *et al.* (2013) on behalf of the Pew Research Centre with 2,462 teacher respondents, entitled ‘How teachers are using technology at home and in their classrooms’.

[Sampling Strategy](#)

My anonymised research population consists of a purposive sample of six qualified music teachers and two qualifying classroom-based music teachers plus one peripatetic music teacher as a pilot interviewee, all currently employed at the time of the interviews as music educators within either the state or private education sectors.

No other criteria, such as age, ethnicity, gender, sexuality or length of service as a teacher of music were specified as sample requirements, nor will any of these factors form a major part of this research and its subsequent analysis. Details of age, gender and instrument/s played are included purely for the reader's information and contextual purposes (Table 1).

I invited mainly past and present colleagues to obviate the problem of acquiring, within a limited envelope of time, the consent and trust of very busy music educators who do not know my previous research or, indeed, me. Also, since embarking on my Ed.D journey in 2010 many colleagues have shown an interest in my academic efforts and have expressed a willingness to contribute to my research into the 'YouTube effect' and its implications for music practitioners. I was hopeful that my professional and personal relationships with the participants would enable a relatively unselfconscious interview experience that would prove detailed, candid and ethical (BERA, 2011).

Notes on transcription

In order to record the audio data a simple transcription format was used. Speech was captured as grammatical phrases and sentences in strict verbatim. Occasional parentheses were used to clarify respondent intent or to avoid identifying the respondent and minimise redactions. Non-verbal utterances and other apposite contextual information were included. The epsilon was used throughout to indicate a pause in a train of thought or in conversation. Although the transcription software used allows for accurate time allocations for pauses, prosodic details and other contextualising details these were not been included as they might disrupt the reader and it was felt distract, unnecessarily from the conversation content and issues therein.

The *verbatim* interview transcripts are included for purposes of veracity and transparency. The full transcripts carry only essential redactions and are located within Appendix 1. The interviewees' anonymity is further preserved through alphabetized pseudonyms for example, Alfie, Billy, Colin ending with the pilot interviewee, Isaac. The full interview transcripts support their own pagination in the top left hand corner of each page in bold type. It is the internal pagination, which is used throughout the

main body of the thesis to locate and re-contextualize interviewee transcript references within Appendix 1.

Research Participants

Interviewee	Name	Gender	Age	Instruments	Description
Interviewer	Neil	Male	56	Guitar, Piano, Voice	Head of Department in state sector (16 years). Head of Department in private sector (4 years). QTS.
Int. A	Alfie	Male	30	Piano Ukulele	Teaching in state mainstream since 2010. Classroom music teacher (inner city, London). Masters degree. QTS.
Int. B	Billy	Male	34	Guitar Piano	Teaching in state mainstream since 2006. Classroom music teacher until 2012. 2012 Head of Department, international school. Italian citizen. QTS.
Int. C	Collin	Male	47	Piano Trumpet	Very experienced Head of Department (inner city state mainstream London). QTS.
Int. D	Derek	Male	39	Bass Guitar	Teaching in state mainstream since 2008 (inner city London). QTS.
Int. E	Emily	Female	26	Voice, Piano, Guitar and Woodwind	Beginning teacher, first placement.
Int. F	Freddie	Male	27	Drummer, Piano, Composer	Beginning teacher, first placement.

					Masters degree in composition.
Int. G	George	Male	25	Piano, Guitar	Newly qualified teacher in the independent sector.
Int. H	Harry	Male	34	Percussionist	Newly qualified teacher in 2011 state and independent sector. QTS.
Int. I	Isaac	Male	37	Percussionist	Musician in residence at inner-city state school since 2006.

Table 1 - Interviewee Key

7. Research Analysis

Now I do not know whether I was then a man dreaming I was a butterfly, or whether I am now a butterfly, dreaming I am a man.

Chuang Tzu (c. 369 BC- c. 286 BC)

'The virtual creates the analogue and the analogue creates the virtual, and so it goes on!'

Garner (2017) (Appendix 01:160)

Isaac (pilot)

Isaac is a 37-year-old percussion teacher who delivers peripatetic percussion tuition and whole- class extracurricular ensemble music activities within the English state education sector, predominantly teaching ages between 11 and 16 years. Isaac started having formal drum kit lessons at the age of 11.

Isaac's pilot interview and subsequent analyses gave rise to consideration of the concept of Teacher-as-YouTube. YouTube represents the master, in that the application can, in place of the physical presence of a master teacher, demonstrate the past musically and historically in

*obuchenie*¹³, a mediated learning process steered in part by the student apprentice and in part by the algorithmic suggestions of the application YouTube.

The master (YouTube) has the archive or the suggestions (predictive recommended video selection) and people, places and links to other technologies that may assist. The student searches the master (YouTube) for data. If there is none, or the preferred information is not returned, the student will change master or supplement (change YouTube channel or selections) searching through another master (YouTube search) for other affordances to leverage. The difference between the master, as human teacher and 'YouTube' as master is that the use of technology shifts the locus of context and content control from the teacher to the student. The possibility of student-selected content and context poses a possible conflict between the ontology of a traditional didactic peripatetic teacher, such as Isaac, and the emancipatory possibilities afforded to the student by the 'user-centric' platform called YouTube. This pilot interview highlighted the need for a homogenous sample selection. Isaac's role as a non-classroom-based, one-to-one, peripatetic, instrumental teacher, I believe accounts for the qualitative difference and the lack of usable data from this pilot interview. Isaac's full analysis is available in Appendix 8.

However, I have kept just one single quote from Isaac: it is an extraordinary exemplar of asynchronous access to a student's cultural context via YouTube. Isaac provides an example where YouTube almost miraculously extended his reach as a peripatetic music educator, thereby enabling him to access the learner's world. This mediated learning in action is also an example of technology-enabled, mediated learning. The didactic heteronomy of the standard peripatetic approach would not and could not work. The student and the teacher found commonality via technology. Isaac explains how YouTube collapsed the spatiotemporal and cultural differences

Int. I...one example that I can think of...I had a student from a Romanian Roma Gypsy background whose attention span was very, very short, and it was my responsibility to maintain his interest in the drums and to maintain his enthusiasm for playing even

¹³ '*Obuchenie*' is a contested term usually aligned with Vygotsky indicating the dialectical unity of school teaching and learning.

though he had no...he wasn't able to count, he couldn't count to four, he couldn't count four bars, he couldn't coordinate his limbs, he couldn't think of playing a groove in any kind of way. And it wasn't until I thought, 'Now hang on a minute!' He's from this sort of Romanian background, what if I asked him to show me the kind of music that he listens to? And through YouTube he played me these musicians, these drummers, that he is actually related to that play this, I mean it's all in 4/4 but nonetheless the emphasis in the bar is very, very different, very kind of rhythmically different to anything that I had been trying to teach him, all the Michael Jackson stuff etcetera and I said 'Right then let's learn this', and I started to play this kind of Romanian dance clave to him on a drum kit, and he actually burst out crying, he was so, not just impressed but he had suddenly found a whole new enthusiasm for this instrument because I was playing something that he actually recognised.

NRG: So, you put his culture in context. You had managed to find his cultural world and translate it through the drum kit. Bring it from Romania through YouTube and into the room you were in.

Int. I: Now, as a classroom teacher, that would be impossible to devote that much time to one student within 30 minutes but as an individual teacher, I was able to do that. And with hindsight it was really obvious thing to do...and why didn't I do that thing before? I should of done. The nature of somebody with ADHD whereby they can't necessarily focus on the exact thing that you want them to is by no means any hindrance or any negative or reason for any negative experience whatsoever.

(Appendix 01:154)

The recontextualizing capabilities of YouTube as an asynchronous archive were fully utilised within the vignette of the Romanian child and the use of YouTube in connecting the student and teacher through apposite media retrieval. This was absolutely impossible to do before YouTube and the ubiquity of hand-held interconnected recording and transmission devices.

Participants' Emerging Themes with Subordinates

Control	Emancipation	Entertainment	Speed	Value	Archive
privacy	content	Ludic learning	immediacy	education	memory
market	context	distraction	advantage	learning	connective
safeguarding	choice	content	impatience	sharing	chronesthesia
technology	novel praxes	2D archaeology	loss	access	gamut
big data	affordance	stimulus	power	ubiquity	meme journey +-
context content	autotelic	connective	control	gift	access
fear/surveillance	meme journey	narcissism	medium	autotelic	curiosity
focus	distraction	imitation	performativity	content +- quality +-	quality +- quality +-

Table 2 - Subordinate themes (emerging from initial analysis of original transcript: pp1–161)

Alfie

NRG: Have you adjusted your privacy settings on YouTube? Have you been in there and adjusted the web 3.0 that provides the selections of things you might like in the right-hand column of the screen?

Int. A: Er! No...I haven't.

NRG: So you haven't been in?

Int. A: No...And I don't mind that.

NRG: Good...Do you have an ad-block on?

Int. A: Yeah...I did used to. I used to use it for everything, then I noticed that certain websites seemed to slow down...when you use Adblock™ ...and YouTube was one of them...I found that [when] I was using Safari browser with Adblock™ on, it just wouldn't load...so I opened up Chrome and it was instantaneous...so I turned it off for a few websites. (Appendix 01:2)¹⁴

Alfie is an exemplar of an experienced, confident creator and user of online technology and as such, feels completely in control and secure whilst online. Alfie hosts two general technology channels featuring hardware reviews and technology self-help sections via YouTube. Alfie is a vehemently self-confessed evangelist for technology and he sees it as a positive emancipatory force. He is an avid user of YouTube and as a creator of content uses YouTube as a platform for his online business from which he derives a small income through viewer hits and affiliate links with Amazon.com. Following Stowell and Dixon (2013) who reported on *ad hoc* use of YouTube in a live classroom environment the following question was posited:

NRG: Do you ever go *ad hoc* and off plan? Say you've got a class and someone says they have seen something on T.V. last night...and YouTube is already up...do you ever go 'off piste'?

Int. A: Yeah...yeah. Particularly when they are choosing a particular song to play. I'll probably vet it using YouTube, checking the lyrics and all that...

NRG: Yeah...the clean version?

Int. A: Yeah...exactly in terms of using the lyric videos...In terms of the action videos you don't really know what you're going to get really.

(Appendix 01:03)

All respondents, including Alfie, universally found safeguarding, surveillance and control issues to be of paramount concern. Respondents found that the degree of

¹⁴ "An ad blocker is a program that will remove different kinds of advertising from a Web user's experience online. These programs target certain kinds of ads, such as pop-ups, banner ads and other common forms of online advertisement, allowing a user to surf the Web without annoying distractions or interruptions." (www.techopedia.com/definition/23090/ad-blocker retrieved 13.07.2016)

spontaneous access to online materials afforded to students within a controlled classroom environment appeared to be inversely proportionate to the necessarily robust legislative requirements for their safeguarding. All respondents initially professed to be practising the safe and secure online practices required whilst having a 'duty of care' for students within a formal classroom-teaching environment. However, in order for YouTube to be educationally useful *in situ*, almost all the respondents introduced a contextually appropriate degree of professionally informed flexibility when weighing the balance between access to online knowledge and student security. The next excerpt (Appendix, 1:03) from Alfie's transcript reveals a dissonance between the normative browsing behaviours (Foucault, 1977) he used in his professional practice and the idiosyncratic behaviours he had accreted over time as a private individual. The field-specific *doxa* (Bourdieu, 1977) within his educational institution appeared to disrupt his intuitive browsing methods (Bates, 1989) and preferred search practices, thereby contributing to the possible stymieing of professional curiosity and personal spontaneity within the classroom.

NRG: Do you ever, when you're teaching [using YouTube], get your attention distracted by the right-hand side recommended menu? And then see something on the right-hand side...and switch the version you were going to use for the distracting thumbnail?¹⁵

Int. A: Not in the classroom...I wouldn't do that.

NRG: Or at home when you're prepping?

Int. A: Yeah!, When I'm at home prepping (Appendix 1:03)

Interconnected or threaded video browsing on YouTube as a meme journey can serve as an explorative, non-linear, 'berry-picking' (Bates, 1989) practice to probe the digital content using the high-velocity interconnectivity of McLuhan's 'medium'. The meme journey, as a lived experience, can either be negative or positive, depending on the context. Alfie's position on untrammelled browsing is typical

¹⁵ "A thumbnail is a reduced-size representation of a picture, which often has a hyperlink to the full version. They are usually kept as separate copies of the original image and implemented on a separate Web page". www.techopedia.com/definition/5479/thumbnail retrieved 13.07.2016

Int. A: Occasionally...but I try and avoid it...'cause in my mind there is a saying amongst my friends that once you start going deeper into the levels of YouTube it just starts getting ridiculous...the stuff you come across...just going through related video to related video and you end up nowhere near where you started.

(Appendix 01:03)

Alfie is an experienced and highly situated user of YouTube and, as such, he is comfortable with the multi-perspective view as both a creator and consumer of content that this affords. When asked early in the interview what views he would proffer to a new entrant to the music teaching profession, Alfie quickly responded with

Int. A: As a creator of content or as someone who is going to be using it in a school?

(Appendix 1:04)

Alfie clearly differentiates between his perspective as a creator and that of the consumer or education professional as user. However, Alfie appears, through his demeanour and confidence, to be the complete digital citizen, a fusion of realities. An inhabitant of the World Wide Web and willing contributor to its virtual ecologies and avid creator and consumer of its resources, Alfie evokes a sense of seamlessness between actual reality and virtual reality, not a singularity as such, it appears that Alfie is accepting that perceivable actual reality, as with Merleau Ponty's 'blind man's stick', has expanded. Within this expanded reality, agency is governed by reciprocal interactions with the virtual environment, much as it was in the pre-digital era. Alfie eschews the ontological oscillation between the actual and the virtual and sees YouTube as part of a new and expanded reality, a transactional space of borderless globalization within which he has found citizenship, acceptance and, most importantly, a Gibsonian niche within the YouTube environment as an autotelic contributor, community-of-practice collaborator, and entrepreneur.

NRG: So, your sites, you have punters coming in and hits...are you getting revenue from yours?

Int. A: Yes. I do get money, it goes up every month. I have only been running one of my channels for a year...It doesn't bring in much just a little pocket money...about £55 a month I bring in from YouTube at the moment, and it goes up every month and I tie that in with affiliate links with Amazon...and that brings in as much on top of that

NRG: I take it is music-based?

Int. A: It's not, it's a general technology channel that I run...general reviews and tutorials, I'm posting things that I enjoy making...

NRG: So how to fix things *et cetera*, and do you use video?

Int. A: Yes. I use video. Mostly product reviews. I reviewed the iPhone. It is difficult to compete because there are a lot of technology channels out there but I have my niche. I have about 600 followers, and about 1,500 views per day, and I have approximately 50 videos up at the moment. Large U.S. audience, followed by the U.K. and then by Canada. Most of my Video views come from the right-hand sidebar [secondary searches]...because I can't compete with the big guns...with a review I would probably be on page 270! So I have pick up my views as a related search in the right-hand sidebar! That is where about 50 per cent of my views come from.

(Appendix 01:05)

A discussion continued regarding focus shift and the distractive allure of the right-hand sidebar of related searches (Appendix 3, Fig. 8), from which Alfie accrues most of his views, and the relationship of this initial distraction to the subsequent creative actions sometimes triggered by an unexpectedly non-linear, essentially 'rhizomatic' browsing journey (Cormier, 2008; Deleuze and Guattari, 1988). This conversation during the initial analytic review of the interview text fuelled a hypothesis posited within, and informed by, my literature review (Crary, 2000; Davidson, 2011; Helmholtz & Southall, 1962; North, 2011) regarding the psychological state, referred to as 'flow' (Csikszentmihalyi, 1996, 1997), in which I propose that the state of 'flow' is in diametric opposition to the state required for the disruptive attention shift that

preludes change, with the resulting possibilities for novel creative action. When 'flow' is re-termed as 'hyper-focus' (Goleman, 2013) or simply 'concentration', undisrupted 'flow' would also seem to predicate the absence of disruptive Gestaltian paradigmatic shifts and, as such, 'flow' is essentially performative and not conducive to the disassociated distraction, abstraction or attention shifts which the literature indicates are cardinal-to-novel change and combinatory insight. Here is an excerpt of my thoughts contextualised verbatim within the interview.

NRG: Not focus, the way I'm thinking, [focus] is the antithesis of creativity, because when you are focused no new stimuli are coming in...you are not there to create anything new...you are there to nail this one thing [this one problem] ... [Focus as bounded micro creativity an oscillation between a set of predetermined and well- rehearsed triangulated points]. But the big oscillation is where you are looking at the main YouTube panel and then there is that saccadic [eye] flick to the right...there has to be some psychology behind the future possibilities being on the right of the screen and not on the left. We read from right to left etc. The eye being distracted to the right-hand column is the beginning of something changing.

Int. A: Yes.

NRG: Creating a new a new possibility...which is you [Alfie's channel] in this case?

Int. A: Yes.

(Appendix 01:06)

The emancipatory positivity exuded by Alfie throughout the interview process was genuinely his lived experience of technology notwithstanding its restriction *vis-à-vis* child protection issues when used within a classroom environment. However, Alfie is well aware that YouTube is not a benign host. YouTube is an algorithmically and ideologically controlled space mirroring actual reality, and Alfie appears confident that he can prosper and indeed enhance this expanded reality. Alfie's positive and emancipatory approach and claims for YouTube as Utopian are tempered by Postman (1993:13) with his proviso that all technology has its own embedded ideology and "the predisposition to construct the world as one thing rather than another". Despite Alfie's

awareness of YouTube's secretly orchestrated algorithmic Tango and its interactive design to modulate and steer human agency by subtle algorithmic adjustments to the virtual environment he remains upbeat

NRG: That's fascinating stuff...so, what is your next move? Are you going to open up another channel?

Int. A: No, I've got a couple of bits going but the technology one is by far the more successful one...It's just about generating more interesting content and trying to grow that channel...it's difficult balancing that project with the job.

NRG: Were you tempted to do a 'Gangnam Style'¹⁶ assault...paying people to physically make hits on sites? YouTube became aware of this and altered their algorithm to reflect the time spent on the site over and above momentary hits however so produced...but it may be the likes or the comment content. YouTube guard the usage of the data generated via the metrics very closely.

Int. A: Given when YouTube contacted me regarding my analytics, there was a very big push on watch time and then views.

NRG: It is almost smoke and mirrors, as the main viewing pane does not show watch time but still shows hits.

Int. A: Yes, watch time, the invisible metric the viewer never sees.

(Appendix 01:07)

Interestingly the watch time is not readily available to the YouTube consumer. Alfie's comment reveals one of many visible and purposely invisible inequalities in the relationship between YouTube as host, and content creators and consumers.

Alfie's implicit narrative in the next excerpt from the transcript (Appendix 01:08), suggests an exploitative, somewhat predatory feeling of warmth for YouTube's instantaneous and temporally separate communicative display capabilities. He tacitly

¹⁶ On May 31st 2014 'Gangnam Style', a music video recorded by Psy, became the first YouTube video to reach then surpass two billion views.

infers the benefits of an increased temporality (Gleick & Aveni, 1999) and the ability to capitalise within the difference between actual physical communication time and the ultra-high speed of digital communication 'network time' (Hassan, 2003). Alfie's professional use of YouTube as a content-rich 'how to' search engine provides a stroboscopic glimpse into the complex transactional terrain where Alfie and other agents data-graze as hunter-gatherer 'informavores' (Carr, 2010; Miller, 1983).

The transaction is as silent as it is invisible, using third order technology (Floridi, 2014) transient participant-users knowingly or unknowingly fall prey in *faux* reciprocity to the host platforms in their constant crawl for data. Data are the new currency. Towards the end of this interview transcript it is interesting to note how Alfie's use of language has adjusted to accommodate the technology and not *vice versa*. Alfie's continued self-description as a 'creator' somewhat imbues the role of content provider with an almost tangible degree of omnipotence. Alfie explains, in response to a question regarding when he first used YouTube, that he would navigate via a Google search and then manually type the URL

NRG: Yes. Just the http.

Int. A: And that is how I was basically introduced to it [YouTube]. I never went looking and I never treated YouTube as a search engine...now the content is obviously so incredible and what is out there...so if I'm looking for a tutorial or how to have something explained to me then that [YouTube] becomes the search engine.

NRG: And given your experience and crystallized knowledge, you can use that to filter out the content that is of no use and direct yourself to what you need.

Int. A: From a creator's point of view you get quite good at knowing what to search for. I'm good at knowing how to phrase what you type into the search box...you don't phrase as a sentence...you pick out the key words

NRG: It's like a Boolean search?

Int. A: Yes. You don't say 'how do I fix my iPhone screen' you say 'iPhone-screen fix'.

NRG: And then the serious stuff comes up!

Int. A: Yeah. Exactly.

(Appendix 01:08)

The book 'Faster: The acceleration of just about everything', by Gleick (1999) and Hassan's (2003) concept of 'network time' both explore how increased temporality and the acquisition of almost instantaneous connectivity increase power and control, the paradigm exemplar of the relationship between communicative speed and power being the global stock markets. As a phenomenological analyst I am led to consider the experiential cost of such acceleration to my respondents. This brings to mind this tantalizing yet deceptively complex aphorism "...the degree of speed is directly proportional to the intensity of forgetting" Kundera (1996:39), suggesting a silent uncontested socio-historical cultural loss. Postman (1998:1) offers the first of 'Five Things We Need to Know About Technological Change'¹⁷.

The first idea is that all technological change is a trade-off. I like to call it a Faustian bargain. Technology giveth and technology taketh away. This means that for every advantage a new technology offers, there is always a corresponding disadvantage.

¹⁷ 1) Culture always pays a price for technology. e.g. cars and pollution (and many other less obvious examples); 2) There are always winners and losers in a technological change; 3) Every technology embodies a philosophy, an epistemological, political or social prejudice. The printing press de-values the oral tradition; 4) Technological change is not additive, it is ecological. The invention of the printing press in Europe, did not create "old Europe + the printing press". It created a new and different Europe; 5) Technology becomes mythic, it becomes seen as part of the natural order of things.

The next section of the interview was one of the most animated and positive exchanges of the whole process as Alfie definitively articulates his immersive position with regard to YouTube as a high-value and highly flexible online environment, a borderless in-class and out-of-class ecology of resources for both teacher and student.

NRG: Have you ever used it [YouTube] for your own personal musicianship? Or teaching practice?

Int. A: Yes. I have. In terms of the classroom I will always use YouTube every lesson without fail...for when the students come in or have a video performance going on the screen...erm...I'll use it as a way of playing audio to students...the students then use it for looking up lyrics...it's quite interesting watching students look up lyrics because they don't look in Google...they look in YouTube for lyric video...and that's become part of what they do...they are so 'app-centric' and have an app for YouTube, so they use YouTube as a search engine. So coming back to the classroom, both I and my students will use YouTube in many different ways throughout.

NRG: So to solve technical, practical or musical problems for yourself will you pop in [YouTube] to have a look 'round?

Int. A: I will pop in and see what's there for me...I mean I only started playing the ukulele less than a year ago and there's tons of great content...and there is some really good channels as well, and there's another thing I've noticed actually is that the students become familiar with the channels and the people running it...so they look for a particular person...rather than a general search...this particular person does a great job, we're looking for that.

NRG: So, personality, not just content and context.

Int. A: Yes. Somebody they can trust.

(Appendix 01:09)

Alfie's acceptance of social technology supports the posited concept of an expanded reality mapping a digitally extended habitus (Bourdieu & Passeron, 1990). This meld of the actual and virtual or new ontological paradigm, would support a continued *techno*-driven, socio-linguistic shift towards new descriptors, such as 'app-centric' and their uncontested recruitment as constituents of an equally expansive hybridized dialect for the merging realities.

During the interview we discussed YouTube's capability to offer novel presentation and increased access to musicians as learners. However, Alfie's experience revealed nothing novel about the methodologies used or the learning methods employed by YouTube creators when offering mainly asynchronous instrumental tutorials. Alfie lamented the perceived divorce between the practical and the theoretical and saw it currently as a weakness of many YouTube instrumental tutorials (Appendix 01:10).

As a self-professed technophile and as a classroom teacher Alfie has both personally and vicariously experienced the 'Netflix¹⁸ culture' of instant gratification as an attempt at autonomy with respect to pedagogic authority (Bourdieu & Passeron, 1990) and pedagogized space. This self-direction appears to foster an adjunct autonomy from patience brought about by YouTube's inbuilt distraction, immediacy and viral curios.

Int. A: It is easy to see how that instant gratification of being able to play what you want when you want instead of, before you learn this song we have to learn these chords, this scale and play this part of the melody...instead you just go. It's the Netflix culture, 'This is what I want to watch, this is what I want to learn'.

(Appendix 01:11)

The speed and ubiquity of technology are constant undercurrents of Alfie's lived experience constantly shifting the parameters of his experience and questioning the human ability to control, adapt and reciprocate anthropologically within an "acceleration of reality" Virilio (2000:2) and in a world where technology could be regarded as "both the means and end of human creativity" Postman (1993:61). Alfie tacitly accepts that at the moment there is a form of dual-speed reality in one: 'we will

¹⁸ 'Netflix' founded in 1997 is an American based multinational streaming and DVD-by-mail service provider.

move from one device to the other seamlessly' (Appendix 01:11) communicating at lightning speeds whilst, as Alfie points out, in actual physical reality we are still corporeal beings contemplating our relationship with technology.

Int. A: I think that what's happened in the last ten years is that the technology has increased and gotten so sophisticated in such a short space of time that we haven't yet figured out how it fits into our lives.

(Appendix 01:12)

Despite Alfie's belief when he states 'I'm just confident that our generation will just get confident in when to use this technology.' (*ibid*) I detect a feeling that compromises are already being struck and that 'The question concerning Technology' Heidegger (1954) and the Frankfurt school's dystopian message that technology's ultimate use is for 'man to dominate man' has yet to explicitly play out (Keen, 2012, 2015). So, it may well be a case of how we fit into the *Umwelt* of technology and how it uses us. However, current technology has a degree of unpredictability and impermanence; this instability problematizes the posited fusion of the actual and the virtual into one expanded conceptual space or permanent perceptual reality. Actual reality collapses for a biological organism at death. Virtual realities although seemingly 'autopoietic' (Maturana & Varela, 1980) can, and do collapse or crash, thereby unexpectedly removing affordances (Gibson 1977, 1979; Norman, 2013) whilst at the same time contracting the available lived space or 'habitus' and curtailing the agency of the inhabitants.

Alfie uses YouTube as a digital marketplace and, as such, uses the terms 'creation' and 'consumption'. All actors both consume and create reality. However, reality is undiminished by our consumption of it, as reality is a perceptual invariant in Gibsonian terms. Therefore it is about perceptual access to reality and the portals and interfaces that control that access. One such controlled access point is YouTube. 'Alphabet', the parent company of Google, is expanding, creating more digital reality, more environment, niches, and presumably glitches. Alfie continues

Int. A: Yes. They are moving way beyond just search... The parent company became Alphabet and encompassed Nest¹⁹ and everything else they are doing...You do wonder at that point where they are moving on to...It is interesting to see what they are doing...Are they looking to become the next Apple? They are doing work on self- driving cars...Apple is doing work on self driving cars...I can see parallels between them...two global powers.

Finally, Alfie experiences the classroom as a technology-enabled interface for mediated learning (Vygotsky, 1978), a situated learning space affording facilitated access to the past and exposure to novel experiences via a creative fusion of teacher and *techne*. Alfie appears to negotiate the delicate cost-benefit management of student freedom, choice and speed against a loss of stillness and reflective incubation time with considered professionalism and optimism.

Int. A: Yeah. I think the classroom is the initial catalyst and as long as we are showing students how and where they can learn more [*obuchenie*]

NRG: Yeah, yes.

Int. A: And the students can say, 'I am going to learn this way' and they can.

NRG: Or at 2 am in the morning or at the weekend ...whenever it takes their fancy.

Int. A: Yeah.

(Appendix 01:15–16)

¹⁹ “Co-founded by former Apple engineers Tony Fadell and Matt Rogers in 2010, the start-up company quickly grew to have more than 130 employees by the end of 2012. [5] Alphabet Inc. (Google) acquired Nest Labs for US\$3.2 billion in January 2014, when it had 280 employees, continuing the Nest brand identity. In November 2015, Nest Labs had grown into more than 1100 employees, with a new engineering centre in Seattle” https://en.wikipedia.org/wiki/Nest_Labs

Theme	Appendix 01: Page	Key words
Value	:09	I will always use YouTube every lesson without fail.
Creativity	:06	Yes...Yes.
Optimism	:13–14	Classroom is the initial catalyst.
Meme journeys +/-	:03, :04	Nowhere near where you started.
Safeguarding	:02	Adblock.
Control	:03	Not in the classroom.
Immediacy	:11	Instant gratification.

Table 3 - Alfie's superordinate themes

Billy

NRG: How did music first capture your attention? How has music held your attention?

Int. B: Sound?

NRG: Sound?

Int. B: Yes. Sound...

(Appendix 01:17)

Billy's response was emphatic. It was sound and the visceral vibration of the airwaves that had entranced him when he was younger (Trower, 2012). The physicality of sound as touch combined within his imagination as a direct route to the affordances of pleasure and narcissism as self-indulgence, Billy's intrinsic musical motivation being further propelled by his desire for competition, and to be the best, to be different,

through music. Billy recounts his internal drive to recreate and mimic sound (Clark Terry²⁰).

Int. B: Personally, for me it was a thing that I enjoyed and that was why I kept doing music for so long...and the fact that I was managing to progress and I always felt like I was a little bit ahead of the people who were playing the guitar of the same age or the same years.

NRG: Yeah.

Int. B: It was...kind of linked to a competitive side and a little narcissistic.

Int. B...Because when I was young I used to have a certain hunger about becoming really, really good at the guitar, and I was really serious about it and nothing else existed for me apart from going home and playing the guitar...I [was] really happy about that nothing else mattered.

(Appendix 01:18)

Billy was initially self-taught, learning aurally and using all available technology. Cassette tapes were used as a technological extension of his musical reach, enabling the constant repetition of phrases until they could be mastered. Billy used technology as a Merleau- Pontian 'blind man's stick' to overcome his geographic isolation and to further his musical understanding. This behaviour is similar to that of the main protagonist Bernie, discussed in my IFS (Garner 2014:5) who also used a phonograph for similar purposes.

Billy preferred to control the personal vectors of his learning environment for example, what, where and when. He expressed a preference for autonomy, especially with respect to the strict time and locations required by the master/apprentice model. Billy insists that,

²⁰ "1920-2015 Clark Terry: Imitate, assimilate and innovate. Jazz trumpeter and educator"

It doesn't come from the books...but it comes from the fact that I've spent endless amounts of time listening to the same thing over and over again...they [books] never really taught me how to do anything.

(Appendix 01:19)

Billy's primary source of information was and is sound. However, without a mentor or guide difficulties were encountered when selecting the appropriate level of technical challenge.

Billy, as an experienced musician and educator, values the access and the depth of the digital archive available through the web, especially YouTube, and sees this as accelerating the learning process. The ability to instantly play back a self-recorded piece affords a self-reflective, technologically enhanced feedback loop or double-loop learning mechanism (Argyris, 1976). YouTube is regarded by Billy as an almost absolute repository of everything musical. In Billy's experience, YouTube provides the virtual ability to time travel over and through an endless topography of sound and to navigate the past by selecting interlinked audiovisual thumbnails each with a myriad of further possibilities enabled by fathomless interconnectivity.

Int. B: It is important to show them [students] the successes of the past...it is important to show that music is linked through the past, and is especially important when you have a student who does the blues scheme of work...the fact that you have YouTube and that you can actually play the performances helps a great deal and to be able to show the real person performing and to be able to appreciate the sound at the time...In the past Muddy Waters would be a CD and only if the teacher had the CD or maybe there would be a book about Muddy Waters, but it would not make the same thing...because you have kind of bypassed the whole experience. Youtube can facilitate that link for the student between important artists of the past and show them live performances. (Appendix 01:21)

With regard to any revolutionary applications of YouTube in Education Billy is categorical

Int. B: You see that's the thing of YouTube and technology, it offers positives and it offers negatives, then it's the people...and how they use it...everybody is missing the point...when we use technology, we are actually using it replicate something we used to do before...only in a different format.

(Appendix 01:23)

This cuts to the quick of how to leverage the affordances of YouTube despite the “we have never really been modern” (Latour, 1993 in Malafouris, 2013: 131) inference: access, speed and choice are continually increasing. McLuhan *et al.* (1967) and Siemens (2005) have iterated that the conduit is more important than its content. Billy's experience of the content and its lack of novel methodology or methods appear to be the main issue (see Alfie in press).

Billy expresses concern over the degree of andragogic learning (Garner, 2014; Knowles, 1970) versus heteronomy to allow when using YouTube, especially when selecting from the computer-selected preferences on the right-hand side of the interface pane (Appendix 3. Fig. 6)

Int. B: I personally have never done it! I have never asked the class to choose from the right hand column...It's too scary!

(Appendix 01:25)

Billy reflects a genuine fear of the consequences of student self-directed learning in a formal, safeguarded situation. Billy's concern over the possibility of a professionally catastrophic 'critical incident' (Cunningham, 2008) affects both the degree of control and curiosity and explores the current limits of a learner-generated context (Luckin, 2010; Luckin *et al.*, 2007) whilst utilizing open-access social media. However, interestingly perceptual and epistemic curiosity (Berlyne, 1954) appears to benefit along with creative action, regardless of controls placed upon it. If controls are relaxed to enable 'diversive' and 'specific' (Berlyne, 1960: 26) curious investigations, these will indeed take place. If controls are increased to prevent such investigation curiosity and creative actions will increase precisely because of the controls (Ashby, 1956). Curiosity as exploratory behaviour appears to be an invariant, with individual phylogenic, ontogenic and environmental differences affecting the degree of the desire to know in *homo sapiens*.

Int. B: I think everyone is curious...it is a natural instinct, as a teacher you cannot plan a lesson and say that 'I am going to make my students curious...say after one year!' You can implement parts of your teaching that can encourage students to be curious. For students to be curious and creative, that is the other side, the teachers at the school need to be prepared to allow that...which is a big step and people need to take it together.

(Appendix 01:25)

Litman and Spielberger (2003:85) concluded that curiosity is a "multifaceted personality trait" with perceptual and epistemic curiosity "as two distinctive but substantially correlated dimensions." The theme of synthesis between the inner, epistemic world and the outer perceptual world follows the work of Husserl's phenomenology and Merleau-Ponty's embodiment. Heisenberg (1959) in his 1955–6 St. Andrews 'Copenhagen Interpretation' lecture, grounds the multidisciplinary issue in the methodology and methods: "we have to remember that what we observe is not nature in itself but nature exposed to our method of questioning."

A discussion followed around Billy's experience of the current Western educational systems' preference for a product over the value of the process. In Billy's experience it marginalizes the possibilities for creative action to take place within school due to the regulations for controlled assessments currently in place. Controlled supervision has to take place within school at specific times with varying degrees of teacher supervision and control.

Int. B: And, I suppose you want to spur on creativity, you really want kids to explore more in their own time, away from school, because that's really the key. And there, you see, is another problem because the controlled assessment does not allow that.

(Appendix 01:26)

The importance of context when learning a musical instrument or, indeed, just a new chord sequence, brought up the suitability of the school environment, as a one-size-does-not-fit-all solution.

NRG: As we were discussing the other evening, it is difficult for a musician to learn something new that may be difficult, challenging or even beautiful in the wrong environment...And the wrong environment can often be a very noisy classroom with other people doing different musical things at the same time, and I think a professional musician would find that environment difficult, let alone a student who is just beginning their musical journey...And I think one of the affordances of YouTube is that they can be socially and psychologically safe whilst they make mistakes and learn it, and then they can bring it, when they think they've got it, and then they can bring it out into the public.

Int.B: Yes. That's a very, very valid point...yes. (Appendix 01:26)

There are parallels with medical education when medics use simulations and repetition of skills prior to applying their surgery in a live and exposed situation. YouTube is used extensively to model medical techniques in the same way as a musician would use a YouTube tutorial. Billy regards YouTube as emancipatory in many ways, especially with regard to personal choice, and there is a sense that he sees this as a paradigm shift in how musicians are learning. Interestingly Billy observes that the stochastic possibilities afforded by the ludic 'surfing' of YouTube often provide serendipitous experiential outcomes

NRG: It's exciting in one sense but it is the opposite of focus...taking you elsewhere, taking you on a journey.

Int. B: Yes. It can take you very much into a different experience...I think it's also that YouTube is designed to...I think the main purpose of YouTube...let's go back to that, YouTube is not designed to help people learn or you know...or improve ...I think the main thing of YouTube is to entertain. (Appendix 01:30)

Objectively, YouTube is a series of interconnected networked conduits for social media to be uploaded and watched, much as the design of a pen allows ink to flow. What is written and how it is interpreted will always be moot. Likewise what passes for entertainment or education, though the two are certainly not mutually exclusive, is also highly subjective, hence the phrase 'edutainment' as a combinatory adjective of

the two (Bandura 2004; Slater & Rouner, 2002; Thomas & Brown, 2011²¹). Billy contends that as YouTube is only the conduit, the main purpose of music on such platforms as YouTube is indeed to entertain. However, in music education the division between entertainment and education remains moot.

No compulsory learning can remain in the soul...in teaching children, train them by a kind of game, and you will be able to see more clearly the natural bent of each.

Plato, (The Republic, VII)

Focusing on a pre-prescribed YouTube journey such as might be arranged for Key Stage 3 students aged 11–14 following a competency based curriculum could proceed according to the following steps: focus-control-performance-stasis-bounded replicatory action. Or, alternatively it could be modelled in an aims-based, learner-generated context whereby the student selects their YouTube journey and its content. The 'nomadic' (Alexander, 2004) model could be thus: distraction, emancipation, process, change, unbounded creative action.

YouTube, in Billy's experience, is also used as a pacifier. He states,

In a U.K. environment where classes are challenging and the interest of the children is very low...so you had to rely on things like YouTube...It does work...It has an effect...don't get me wrong! Choosing the correct video with the correct emphasis on a particular aspect would work a treat...It actually could work to focus the class towards something...so it's very, very, very important.

(Appendix 01: 32)

Billy refers to Google and YouTube as 'the mystical binary' (Appendix 01:32) but he does find it problematic that users are abdicating their search responsibility entirely to the combined search engines of Google and YouTube in their virtual quest for vicarious omnipotence! YouTube use is highly context-dependent and Billy sees the possibilities for countries other than first world ones to find educational liberation via the

²¹ According to Thomas and Brown (2011) all systems of play are, at base, learning systems.

platform. The Internet is not free at the point of access, datum is the price, and datum is the new currency.

NRG: But does it worry you that they are not publically owned? This machine Google and YouTube are privately owned and they have an agenda with the business that they've got.

Int.B: Yes and that's the issue.

NRG: They create the algorithm...they create what you look at.

Int.B: Ah! Google and YouTube...and all sorts of other social media are designed not to a particular task...like educate or even entertain...to be honest, it's marketing.

(Appendix 01:34)

Billy sees marketing as the converter of data via commodification into power, the Internet as a neoliberal commodified governed space (Fejes & Nicoll, 2008). There is a feeling of an uneven power struggle between the inhabitants and the owners of the virtual environment that is causing Billy a degree of anxiety. The roots of that anxiety appear to be seated in being gifted the simulacrum of control whilst being purposely surveilled, steered and monetized.

Int. B: I think we have been living in an era where we think we have been given this freedom of thinking and behaving...but it's not...we have been given this illusion that we are very happy and that we are in control.

(Appendix 01:35)

Billy appears to be in the difficult position of criticizing his own self-confessed complicity with social media. Billy's innate abilities, personality constraints and psychological plasticity have sculpted an idiosyncratic, symbiotic interface with the virtual environment, creating an essentially sceptical, yet enthusiastic, user of social media technologies such as YouTube.

Theme	Appendix 01: Page	Key words
Value	:21, :28. :30	You have YouTube and can actually play the performances. (:28) It is important...it breaks the barrier of distance...do it in your own time...free to choose...suit your own needs...massive change...create their own little space. (:30) refine it to your needs.
Replication	:23	Something we used to do before...only in a different format.
Archive	:20, :32	Important to show that music is linked through the past. (:32) The resource (YouTube) is very important.
Environment	:26	Socially and psychologically safe.
Entertainment	:30	The main thing of YouTube is to entertain.
Curiosity	:25	I think everyone is curious...it is a natural instinct.
Monetization	:34	To be honest, it's marketing.
Control	:35	Illusion that we are very happy and in control.

Table 4 - Billy's superordinate themes

Colin

Colin is a seasoned head of department and experienced advocate of all forms of technology. Colin exhibited an interesting use of language within minutes of starting the interview when he used the word 'spark'. I felt that Colin had every intention of conveying that this 'spark' translated as that ephemeral moment of creative light or mental illumination. Colin, due to his experience and extensive technological knowledge base, as with almost all the respondents, ignores the hits and comments attached to YouTube videos (Snelson, 2016; Whitaker, 2016). He normally accesses YouTube via an initial Google search.

Colin uses YouTube in a controlled manner and mostly embeds the YouTube clip into 'Prezi'²². However, whilst engaged in preparation he will sometimes become distracted by the right-hand column of auto selected related videos.

NRG: And when you're prepping, do you ever get curious on the right-hand side or do you punch in or you see something and you go on a little meme journey? See where you find yourself?

Int. C: Yes. Just seeing where the music might lead to.

NRG: And you end up maybe here with things?

Int. C: And I might use something else.

(Appendix 01:38)

Colin is intrinsically motivated and sees his professional and personal music personas as one and stresses, with regard to his students, that he 'think[s] it's important for them [students] to know that I am a musician as well as a teacher' (Appendix 01:39). Colin always uses YouTube for solving theoretical or practical music problems if stuck. He appears not to show any explicit protocol differentiation between his personal or in-school educative use of YouTube. This is a confident teacher who is in command of his local environment and, as such, feels empowered to engage safely with social media technologies in a seemingly 'real- world' and non-compartmentalised manner. He manipulates the relationship between the audio and the visual content according to student need. The ability of YouTube to provide pure audio or audiovisual is pedagogically exploited.

²² "Prezi is a cloud-based presentation software based on a software as a service model. The product employs a zooming user interface (ZUI), which allows users to zoom in and out of their presentation media, and allows users to display and navigate through information within a 2.5D or parallax 3D space on the Z-axis". <https://en.wikipedia.org/wiki/Prezi>

Int. C: Sometimes it's good to not give them the image because actually, it challenges them in another way...listening to things perhaps differently.

NRG: If you shut down the visual, close your eyes and listen, it's a different world.

Int. C: Yes.

(Appendix 01:40)

Colin's experiences with online technology, such as YouTube, are effusively positive and he sees YouTube as an extension of curriculum provision, akin to the educative possibilities afforded by a virtual Vygotskian (1978) MKO (more knowledgeable other) as explored in (Garner, 2014).

Int. C: The use of technology for us, or the online technology is for me anyway, is paramount to engaging students. So one of the things that we use it a lot for now is engaging them when we don't see them.

(Appendix 01:40)

Colin is using technology to offset music's small, one lesson per week curriculum allocation, by 'flipping' the classroom environment (Adkins, 2016; Demetry, 2010). The critical question of the quantification of value regarding YouTube as a music education platform was met with resounding enthusiasm.

Int. C: I completely value it. A number of students that come in, they say, 'Look what I can play sir' and they play something quite complex and my first question is 'How did you learn to do that?' and they say 'YouTube'. You know, technically, it might not be quite right ...but actually, pretty often, more often than not, technically, it's correct. Lot of our guitarists, rock guitarists are learning the riffs. I think particularly guitarists and keyboard players seem to use it. Keyboard players just get these shapes, they can see the shapes.

NRG: See the fingers?

Int.C: Yes.

(Appendix 01:40)

YouTube contains learner-generated content and is a learner-generated context. The students learn via YouTube purely through their own intrinsic drive, free from an imposed purpose or assessment criteria, and yet they return to the formal environment to display their transactional efforts as autotelic musical 'informavores' (Miller, 1983). The nature of learning a musical instrument suggests that YouTube, as in Colin's experience with online tutorials, may be more educationally effective in a less formal non-pedagogized space.

Colin alludes to an affordance of YouTube that exemplifies McLuhan's 'the medium is the message', insofar as it is the medium itself that allows for multiple tabs to be open and others to be opened almost instantly thus enabling instant audiovisual comparisons of musics. This inbuilt capacity of the medium to enable nimble navigation of audiovisual panes appears to cause a paradigm shift in student engagement. As recalled by Colin

Int. C: When we got these interactive whiteboards, the impact...was almost instant. You were engaging kids straight away; the kind of material...and the access to the range [of] material that you had, maybe you were able to make it more relevant, but at the same time, it was quickly switched to something that was out of your comfort zone, and yet they were still comfortable with it because of the medium. So you could play a Baroque piece, then you could play something that was you know....

NRG: Thunderstruck?

Int.C: Yes. You could switch between styles really quickly, maybe because of the medium...they are listening to it, they are engaged in it... I can remember when we got this kind of set-up...thinking, 'Wow, yes...that's amazing!'

(Appendix 01:40–41)

Colin admits to the occasional, Stowell and Dixon (2013) '*ad hoc*' YouTube usage, but, interestingly, YouTube is used extensively for homework tasks. However, due to safeguarding concerns, this takes place on a departmental website that is secure and unlisted. Access for students, for evaluative purposes, of their class performances with

their peers for homework purposes has promulgated a relocation of the locus for learning. Colin's use of technologies, with YouTube as the main facilitator has extended the music department's reach beyond the formal setting and chronological constraints, enabling an asynchronous informal non-school-centric expansion of musical learning complete with reflexive and reflective opportunities.

Int. C: Yes I think... the idea of students reflecting at home on their own work using YouTube and it's the simplicity of it for us, and the time saving way of doing it...going to YouTube capture, film the group, it uploads it to my website. It's linked to my doc that's already in my homework site. So within a lesson, I could have filmed them, I can...have my homework site up and I could be thinking about what I'm gonna do. So at home...they'll go home, download and watch and listen to their own performance.

NRG: Big biofeedback?

Int.C: Yes and the results...it's quite marked...

(Appendix 01:42)

Colin appears to be consciously and, to some degree unconsciously, addressing the time and space conundrum often presented to music departmental heads whereby the expectations in terms of standards, progress, delivery, assessment, accountability and homework-setting are homogenized across the curriculum areas despite the extreme differences in curriculum allocation and staff allocation. Colin is acutely aware of safeguarding issues and sees the comments on YouTube as a negative in this regard. He also has witnessed the issues that can ensue from the technology being 'down'. The possibility of the collapse of this expanded reality still makes the requirement for a fallback position to pre-digital methods essential. Colin sees the responsibility of the teacher as absolute and as such he ensures that all materials, as far as possible, are vetted in advance. However, he admits that in spontaneous live YouTube search situations, 'I know that if you are following that journey sometimes, you can stumble across things. But actually, you've got to assume...take responsibility for what you are showing them.' (Appendix 01:42)

Colin alludes to a possible disparity between music produced via technologies and the standard grade-based methods of musical progression and production. Again political steering and neoliberal values appear to lie beneath Colin's concerns. The relatively new ecology of media resources, such as YouTube, appear highly valued by Colin as a professional educator and his students alike, but full contextualized ascension, acceptance and integration of such technologies within the current education systems both public and private, requires a political will or an irresistible paradigm shift.

Int. C: I hope...I hope... that there will be more acceptance...as a medium...technology as a medium of musicianship [Interruption from announcer]. I suppose I'm slightly concerned, and you can look at education where it's kind of almost heading backwards in some ways. I know that we are moving forward with technology but there seems to be a push backwards with where music lies... and if it becomes cut or becomes something that again is only for the elite, or for the few, then technology is pushed again to the side and it seems it's seen as not real, not real music maybe, if you know what I mean. What I would like to see is where it is an art form and it should be treated as an art form. So if you're doing deejaying with YouTube or Spotify® then you are just as natural a musician as somebody else... even though you got there differently...but it's valued, it needs to be valued the same way and I'm not sure that it necessarily is.

(Appendix 01:42)

Chronesthesia (Tulving, 2002), or the consciousness of time travel, is as Tulving suggests the ability to be aware in the present of both the past and of future possibilities. The depth, variety and chronological span of the exponentially increasing content available via YouTube, appears, in Colin's experience of the three ascribed temporalities, past, present and future, to form a broad combinatory creative experience as technology enables the present and the past to interpolate the future and provide schema for novel insights or combinations and 'creative action'. The phrase, 'creative action' is used in preference to the polysemic word 'creativity' (Glăveanu, 2014; Glăveanu et al., 2016).

Colin eloquently explains the possibilities for andragogic journeys and autonomous learning catalyzed by YouTube.

Int. C: Well. Well it's almost being able to look backwards to be able to go forwards isn't it? To be able to draw on historical, to connect things in a way of delving back into the past to enable you to move forward... I guess, in many ways. And students who come to us now, having listened to the artistes from the 60s or 70s, some really good funk and soul stuff, they might not have had access, so they take journeys themselves...so it's interesting to know where they are going. I suppose in some ways, they are using that, like sampling, you know. But they are not just sampling it; they are using it in new ways.

NRG: They are re-contextualising it now and bringing it into their world and they are creating something new and that for me is the beauty of it.

Int. C: Maybe like neo-classical composers...somebody who is looking back in order to go forward, taking the past with them.

(Appendix 01:43)

I asked Colin directly, 'Do you think there has been what could be termed a Kuhnian paradigm shift in the way that music's been taught since the big bang 2005?', Colin answered unequivocally, 'Yes. I think so.' Colin points to the coincidence that Green's (2001) informal learning methods project also gained traction at about the same time. Both Colin and I see this unintended conflation between informal musical learning and burgeoning social media, namely, YouTube, as a tacit affordance for those advocates of the informal methods used by popular musicians. At this point I would disagree with Crow (2010:179) when he states 'Interestingly, technology is somewhat overlooked in Green's informal learning project...' I would contend that technology is completely overlooked from Green's work. My IFS (Garner, 2014) concentrated on Green's (2001) single tacit reference to technology as an anecdotal instance of the subversion of technology to enable self-directed learning. A close reading will reveal the interviewee as Bernie, who actualises a perceived affordance inventively with the re-designation of multi-speed gramophone player technology for his own musical learning (see Garner, 2014:5).

The interview drew to a close in a very positive manner regarding technology and its application in an educative environment. The sharing aspect of social media seemed particularly beneficial especially when working in an extended musical team of around six professional educators and experienced musicians, as exemplified in this final interview excerpt.

NRG: So it looks like it's a positive catalyst for novel music education practice and musicianship. It's the affordances really of YouTube that I'm going be looking into. It opens up areas that [you] might not have considered and despite your experience, do novel things appear?

Int. C: Yes, completely.

NRG: So you then utilize your experience and click it together with something. Then you've got two things that you didn't expect to make a third?

Int. C: Yes. In the office, it's like 'Have you seen this YouTube? Have you guys seen this?' Sharing and practice...and good practice can get you a good video. It can get you a good clip, something that sparks. There is many examples of stuff that somebody has found and shared and says, 'Have you all seen this?' We all look at it and say 'That's fantastic'. It might be a vocal group doing a rendition of something. It could be anything. It will be hard to imagine....I don't know what we did before it...but I know we did do stuff before it!.

(Appendix 01:44)

The past appears to have been expunged, erased by a perceptual shift into a paradigmatic present. Colin consistently uses the word 'spark' as a term of engagement and interchangeably as a metaphor for creative action and novel possibilities. Colin's thoughtful contribution is particularly apposite for the hermeneutic double analysis process as my role and responsibilities as a head of music and experiences mirror his.

Theme	Appendix 01: Page	Key words
Value	:40	I completely value it [YouTube].
Environment	:40–41	Comfortable with it because of the medium.
Archive	:43	Neoclassical composers looking back to go forward.
Creativity	:43	Not just sampling, they are using it in new ways.
Sharing	:44	It can get you a good clip, something that sparks.
Access	:40	Engaging students when we don't see them.
Responsibility	:42	Responsibility for what you are showing.

Table 5 - Colin's superordinate themes

Derek

Derek started his musical life by learning two instruments simultaneously. This appears to have led to a form of hybridized learning, adopted from the beginning between his formal guitar lessons and his peer-to-peer 'garage band' learning style on the electric bass guitar. This split focus from the start of his instrumental learning suggests an openness to musical collaboration and communal musical effort as opposed to the self-absorbed intrinsic drive often demonstrated by individual fledgling virtuosi.

Derek has partially adjusted his privacy settings but in general he does not feel 'it's necessary to be bothered...' (Appendix 01:46). Derek, as with all the respondents always tries to vet any YouTube material before it is played

Int. D: Ah...I always try to play it first... It's, for instance Indian music... I'm never going to get the likes of Ravi Shankar to come into my classroom but there's plenty of videos of him playing online, so I use stuff like that. If I wanna highlight how a particular instrument is played.

(Appendix 01:46)

Derek accepts the limitations of his circumstance but sees the value in allowing his students to watch world-class exemplars of instrumental accomplishment. He values the form of visual musical literacy that YouTube can facilitate by allowing students to connect the physicality of the performance requisite for the specific instrument design and how this complex interaction combines to produce musical sound. The expanded reality enabled by YouTube is used to increase the reach of the students and augments the praxis of the teacher, thereby opening up the possibility of fruitful educative travel along new, YouTube-enabled, interconnected pathways.

Derek does not take into consideration the comments or the hits a particular video has accrued. Comments could be regarded as text-based, unprovenanced dilutions of the video content. Comments, from Derek's perspective, are mostly biased insights taking the reader one step further away from the actuality and initial value of the audiovisual urtext. With regard to teacher spontaneity, whilst using YouTube, Derek is finding that following meme journeys is stymied by systemic constraints.

Systemic requirements for safeguarding and control appear to actively curtail curiosity in both teacher and students, thereby disrupting at a very early stage the possibilities for creative action. Learner-generated-contexts are better suited to mediated creative action. System-generated contexts necessarily, yet inimically, prioritize other non-knowledge, production-driven logistical requirements over a reflexive creative process that can be achieved via social media technologies.

Derek pushes the primacy of visual perception of his students; he sees the 'visual thing [as] so important...because if you try to get the students to listen critically. Just by playing the music...you can just see them struggling...so...yeah...this generation have a hard time really processing things aurally.' (Appendix 01:48).

The artificial, often hierarchical taxonomy of the five senses has given way to a consensus that the discrete senses are now best described as an embodied confluence of modalities that are interdependent and collectively produce sensorial experience. Listening with eyes closed has always been an option in the past. However, the abstraction or dislocation of sound from the actions that produced it and its subsequent achronological representation has only been possible since 1877 with the invention of Edison's mechanical phonograph cylinder. YouTube, in Derek's experience, appears to have reunited musical sound and vision for his students in a highly accessible user-controlled format as a two-dimensional simulacrum of replayable musical reality. Derek extrapolates further,

Int. D: It's a limitless resource, only I mean...for want of a better word to describe it. And I think that to not embrace it, you are...severely prohibiting your ability to progress as a musician and as a human being...and that also people that you are teaching...because this 25, 30 people that we are teaching, they just look at the world differently. You have to put yourself in their shoes a little bit...and this is how they absorb a world of media through... you know, through video streaming so... to not include it...I couldn't teach...now...without YouTube or without any video streaming...you know, I remember when I first started teaching, just after YouTube started...I used to use YouTube just to have music playing in the background rather than using it as a teaching resource or teaching tool. And still back then I remember thinking, 'How do I find out who plays a certain instrument and how do I get them into the classroom [via YouTube]?'...It's just a huge goldmine of resources...and information.

(Appendix 01:49)

YouTube is seen as a portal to the wider world of 'unknowns' not a 'walled garden' or adjunct virtual learning environment populated with 'known knowns' (*Euthydemus*, in Bourdieu, 1990:23). The vastness of its virtual reality renders it impossible for the user, or inhabitant, to assimilate, appropriate or seemingly control it, not dissimilar to actual reality. YouTube, as an educational resource, is seen as fundamental and is utilized both collectively and independently by both the students and Derek as an access vehicle into a multiverse of asynchronous patchwork realities. Despite YouTube's inherent content problematic, when it comes to safeguarding vulnerable students in educative settings and the fact that the lens of

the provider subtly distorts the bytes of recorded realities, it is, according to Derek, a profoundly valuable educative space.

Derek graphically states that a goal-orientated positive meme journey that is looking for comparative musical exemplars from different genres via the interlinked video recommendations located in the right-hand sidebar, can rapidly shift to browsing YouTube with boundless curiosity and a surfeit of recreational purpose, 'If you click once. It's good news, then you click again...and if you get past two or three suggestions and you are still engaged...it's really good...' However, when curiosity increases untrammelled by a goal or purpose, then you are, 'just getting into a complete and utter monster.'

(Appendix 01:50)

Derek candidly states, 'I have got to admit I'm not an innovator when it comes to YouTube...' But the instantaneity of social-media sharing enables Derek to benefit from the search and share departmental protocols of others, 'I can pick up a lot of stuff from the other guys [in the department]. I mean, like Alfie spends a lot of time in front of a computer in a dark room...and I go 'Wow!'' (Appendix 01:51).

When asked about the main strengths and weaknesses of YouTube in improving overall musicianship, Derek posited the variety of learning styles, allied with the availability of a full spectrum of tutorial differentiation plus the increasing gamut of archival content available via YouTube.

Derek's perspective of YouTube appears to mirror his own personal learning preferences and previous learning experience. As a guitarist and an electric bassist, the selection and variety of tutorials and other related materials available for those able to select wisely, because of their previous musical training, is considerable. Derek believes YouTube's biggest weakness is the bias of YouTube towards built-in distraction in an attempt to commodify the YouTube experience by affording the user a multitude of novel experiential opportunities through advertisements and content recommendations.

Derek uses YouTube in full-screen mode whenever possible to avoid the majority of distracting ephemera, although pop-ups and product placement and overt sponsorship of content are found throughout. YouTube's primary purpose within the communication nexus that is Google, is a transaction of the informatics of user desire, and the provision of that

desire or, the placement of a new desire based on previous desires. The Google empire operates in-depth and hyper-personalised market research of users for capital gain. Google is rather like a cybernautic version of Captain Cook, offering glass beads and broken glass, to the 'digital natives' for the conversion of their personal user analytics into predictive 'big data'. YouTube was not designed as an education platform; it has been co-opted for many purposes, one of which is music education. YouTube's market-driven primary purpose can sharply conflict with pedagogic purpose. This conflict is highlighted in Derek's observations.

Int. D: Yeah, that's probably the biggest weakness. When I used to put it on full screen in a classroom YouTube never comes with just the video...it has the 16,000 recommendations and the ridiculous comments and the ads and all the rest of it...so if you don't show it in full screen, the kids are automatically distracted [on screen adverts] that again I think is a weakness in terms of teaching and using it as a teaching tool.

(Appendix 01:52)

Overall Derek places a very high value on YouTube, despite its weaknesses

NRG: If you could put a value on this type of technology exemplified by YouTube...How valuable would you say it is?

Int. D: As a music educator...answer, it is of infinite value, because there is always something which you can find which is useful and as a musician...when I find myself stuck I think...'Awe...I might as well go on YouTube'...do that, just sit down and learn how to play it...write it down or something.

Theme	Appendix 01: page	Key words.
Control	:49	Not in the classroom.
Value	:49	It's a limitless resource.
Sharing	:51, :52	I can pick up a lot of stuff from the other guys. Infinite value

		(:52).
Meme journey + (positive)	:50	Three suggestions and you are still engaged...really good.
Meme journey - (negative)	:50	Just getting into a complete and utter monster.
Marketing	:52	Weakness in terms of teaching.
Archive	:46	Ravi Shankar to come into my classroom.

Table 6 - Derek's superordinate themes

Emily

Emily is a beginning teacher and has been immersed in music all her life. Her mother ran a music workshop for the under-5s, which Emily attended from the age of 3. She studied both piano and recorder from the age of 4, both aurally and via notation. She has not adjusted any privacy settings or read any of the terms and conditions of use for Google and YouTube.

The more experienced technology users tend to gain a higher awareness of their visibility online and prefer if possible to navigate the environment free from privacy loss (Boyd & Hargittai, 2010; Turow & Hennessy, 2007). Interestingly Emily appears atypical in this respect as younger social media users aged 18–24 years “are much more likely than older people to have taken action to protect their privacy on [social network services] SNSs.” (Blank, Bolsover & Dubois, 2014:24). Similar age-related privacy-setting habits were also recognised in the Pew Report (Madden & Smith, 2010). Madden and Smith reported that 71 per cent of young adults aged 18–29 years have adjusted their privacy settings to limit the amount of personal information they share online.

Emily at present does not contribute to the YouTube archive by uploading content. However, she exhibits a high degree of self-control in her use of YouTube and is understandably risk-averse when using YouTube in a live classroom environment due to safeguarding requirements. She is a highly organized trainee music practitioner and is acutely aware of her teaching responsibilities and plans accordingly,

Int. E: I drop my You Tube videos into 'Prezi' because I don't want them to see any adverts...and anything that could be inappropriate.

NRG: ...Yes.

Int. E: So it's always good to make sure that everything is going to plan beforehand.

(Appendix 01:56)

Emily is a passive user of YouTube and does not read any posted comments nor does she add any comments for school related work. She is approaching the end of her first placement as a beginning teacher and as such appeared focused, controlled and goal orientated. This complete absorption in surviving the rigours and responsibilities of teacher training can affect the propensity to perceive and leverage the affordances that may be present within the teaching environment. As posited *idem* in the literature review, it is suggested that focus delimits distraction, and control stems curiosity, thereby reducing the possibility of educationally beneficial creative action or insights.

Emily values YouTube's ability to visually contextualize sound and reposition the audio to its visible locus for educational purposes.

Int. E: I think it's really important...now...because listening without an image...is a very different experience...for instance if you're watching an orchestra and listening to an orchestra then you can see all the instruments...and that helped when we were trying to identify certain instruments...certain families in the orchestra...that was a really good exercise for that so that they could see...strings and see the woodwind as well as hear them.

(Appendix 01:58)

As a burgeoning entrant to the teaching profession my impression is that YouTube was just one of many resources that Emily had to appropriate, assimilate and adequately demonstrate in order to successfully gain a Postgraduate Certificate in Education. The consequent pressure of the course requirements do not make for an ideal psychological environment for creative risk-taking with YouTube or its *ad hoc* usage in a live classroom. However, when asked what value she would attribute to YouTube as a teaching resource she replied, 'Extremely valuable.'

(Appendix 01:59)

The positive exploitation of creative opportunity or affordance appears in Emily's case to be affected by transitory personal circumstance for example, successful course completion and adherence to external controls, such as safeguarding compliance. However, an individual's creative latitude is also bound by the fixed parameters of personality traits and inherited abilities, as Amabile (1996) explains.

There is not much that can be done about innate abilities and personality characteristics. Furthermore, although cognitive skills necessary for creative performance can be developed, this process normally occurs over relatively long periods of time. By contrast, social environments influencing creativity can be changed easily and can have immediately observable effects on performance.

(Amabile, 1996: XVI–XVII)

Theme	Appendix 01: Page	Key words
Control	:56	Adverts and anything that could be inappropriate.
Value	:58, :59	See the woodwind as well as hear them.(:59) Extremely valuable.

Table 7 - Emily's superordinate themes

Freddie

Freddie is a 27-year-old composer and percussionist. At the time of interview he was just finishing his first placement as a beginning teacher in an inner city culturally diverse, 11–19, years secondary school. Freddie appears to be a capable and assured user of technology; he has reset his privacy settings and has not read Google's or YouTube's terms and conditions of use. He is a reciprocal user as he also creates some content for YouTube, but mainly uploads

to SoundCloud²³; the items uploaded are predominantly personal compositions as opposed to pedagogical resources.

Freddie displays an intense curiosity and confidence. He professes to having adopted a part-heuristic, part intuitive approach to YouTube video exemplars when necessary and recognizes the creative possibilities inherent in the navigation through YouTube's 'mirror maze' (Fossati, 2009). He often tracks interconnected videos looking for disparate combinations or more suitable exemplars. This next interview extract demonstrates how the thumbnails, namely, the algorithmically recommended video selections to the right-hand side of the screen, adjust according to what you currently have selected in the main viewing panel.

NRG: Do you ever get on a meme journey, where you see something in the right-hand related video bar, and you think, 'Hang on that just might be a slightly better version?'

Int. F: Yes...I think quite often...yes.

NRG: And then when you replace with the slightly better version, the right-hand selection responds and changes and there you see another, and maybe there is another choice, and maybe you could play those two really different versions and we could get some real educational mileage out of them! Does that meme click ever happen?

Int. F: Yes...a lot...I would think...I think...I think I am quite good at following key words when it comes to finding other things, especially when it comes to world music, there is a way for searching for Indian music that is far more effective than simply typing in 'Indian traditional music', so I've found a really lot of good stuff from that kind of process...in fact a lot.

²³ "SoundCloud is a global online audio distribution platform based in Berlin, Germany, that enables its users to upload, record, promote, and share their originally created sounds."
<https://en.wikipedia.org/wiki/SoundCloud>

NRG: And you find it kind of creative...that process? Putting together disparate things?

Int. F: Yes, it is creative...but it's draining...very draining...but it is creative and you end up with a result that you didn't expect...I suppose.

(Appendix 01:63)

Freddie alludes to a point seldom broached with regard to the processing of creative thought into creative action, namely, that of the psychological and physical energy expenditure required to constantly map for congruence and incongruence and to scan for shifting Gestalts. Freddie does not read the comments posted on YouTube, nor is he influenced by the number of hits.

Int. F: No! I watch things that have about two hits...sometimes I find quite interesting stuff...a day ago I was watching something that had just 20 hits...

NRG: Comments? Do you ever read or add to them?

Int.F: No (laughing), no, never ever.

(Appendix 01:63)

Freddie also uses YouTube to search for esoteric traditional music by constantly refining his search terms and through judicious use of the recommended video options he is able to, using his crystallized and fluid intelligence (Cattell, 1963), radically to reduce the number predictive video selections available, leaving only those videos that either link to, or directly expose, the extremely niche musical environments sought. This type of specific epistemic exploratory behaviour (Berlyne, 1960) is an inward bound meme journey and is the antithesis of diversive exploratory surfing caused by perceptual distractions that can eventually relocate the agent many digital light years away from the locus of the problematic or the original intent. An extreme inward bound meme journey would probably result in finding a 'content' cul de sac, a temporary stasis, awaiting new uploads to act as further avenues for enquiry and interconnectivity. Each selected video acting as an enabler, interface, hub or affordance for the next.

NRG: So...Would you say the right-hand side thumbnails?

Int. F: You mean the options?

NRG: Yes...are they a negative or a positive distraction to you?

Int. F: Yes... I think it is useful [long pause 10 sec] Yes...useful in that a use...

NRG: Useful in that it pulls you in a direction that you might not have intended?

Int. F: Yes...yes...like I said, I think a lot of my links come from that type of thing...because the types of people that upload traditional types of music ...often like...are very obscure people in very obscure places that don't have any kind of following and you have to have these kind of linking things.

NRG: So you are going to need that push to it?

Int. F: Yeah...they kind of exist through something else.

(Appendix 01:64)

Freddie considers himself an intrinsically motivated musician and feels that 'YouTube gives you that kind of broader resource option. I think, when I get an idea, I think it's because I've created a connection myself not because YouTube has created one for me...' (Appendix 01:64). YouTube acts as an enabler or affordance, which facilitates a reciprocal agency between the viewer and the uploaded material as expounded by material engagement theory (MET) (Malafouris, 2013). Freddie uses a visually striking image for parallel harmony as an almost textbook example of Koestler's (1964) bisociative method of combinatory creative action.

Int. F: ...It is very important when doing composition to be able to make connections with whatever it is...like being able to connect strange things like...like I had the idea the other day of photographing a carpet that was hanging on the wall as a way of demonstrating parallel harmony in South African vocal music...because it was an African carpet and you get these parallel zigzag patterns...I like making these kinds of connections...I think some of it comes from YouTube and some of it comes from something that is creative.

(Appendix 01:64–65)

One of the criticisms of YouTube as a non-curated space is discerning the educational accuracy and authenticity of the content. The purposive sample, of which Freddie is a part,

ameliorates this problem, as all participants are lifelong graduate musicians who have continued their musical training at a post-graduate level. This level of contextualized pedagogic content knowledge (PCK) (Koehler *et al.*, 2014) is invaluable, whether social technologies, such as YouTube, are used or not.

However, given the open access YouTube affords to uploaders, previously acquired knowledge and skills of the education professional as an end user, it is hoped, will ensure that the validity and academic robustness of video selections they choose for educative purposes remains high. Berlyne (1966:31) succinctly states that specific epistemic exploratory behaviour is curiosity “aimed not only at obtaining access to information-bearing stimulation capable of dispelling the uncertainties of the moment, but also at acquiring knowledge.”

NRG: You can always find someone who has gone through a certain piece of music or a certain drum technique and literally broken it down into subroutines...if you've got the training to find it...do you do that at all?

Int. F: Although I do tend to exhaust the possibilities of my thing [percussion], because I know, once you are on YouTube it's basically a non-stop, unless I go onto YouTube and have an actual intention of actually finding a specific thing out...that's when I find it useful.

NRG: So you worry that you are going to get carried off on the ‘yellow brick road’ and end up God knows where? And you didn't end up doing what you were supposed to do...but if you knew exactly what you want, a certain right-hand technique or for a roll?

Int.F: Oh, yes... And sometimes it takes a lot of time. (Appendix 01:66)

Freddie's experience of students' listening skills divorced from an image is captured in this next interchange.

NRG: The split between audio and visual...do you think there is a split now, or are the two...kind of fused? Do they [students] need to listen and see at the same time? Or should they be listening to music divorced from an image? What are your thoughts on that?

Int. F: I think that kids have very little patience...it's just the way that young people are...used to experiencing...you know the radio is less popular now, isn't it? So I think...so myself, I still experience music in it's own right [sonically only] but then again I think that the visual thing is a valid thing to want to have...because it is more real.

(Appendix 01:66)

Freddie's final comment 'because it's more real', although quite possibly a throwaway comment with regard to audiovisual interconnectivity, could, however, when viewed through the prism of double hermeneutics, suggest a deeper more profound insight and tacit recognition of the evolutionary interdependence of the senses, in line with Merleau-Pontian embodiment theory. Freddie therefore validates YouTube's synthesis of sound and vision as this synthesis creates an impressive simulacrum or virtual mirroring of actual reality.

Freddie suggests that when watching musicians virtually, it is 'still a passive experience...' and when 'you watch it on television or whatever it is...it is something that you can't affect yourself.' (Appendix 01:66). However, material engagement theory, (Malafouris, 2013), actor network theory, (Latour, 2005) and Gibson's theory of affordance (1977) suggest that interaction with the environment, actual or virtual, has some degree of a reciprocal effect. My next question was too confirmatory in nature. However, the response was as illuminating as it was unexpected.

NRG: You don't read comments...so...how would you best explain to a fellow beginning teacher on your course, who did not have much experience with technology and, let's say, from a traditional four-part harmony background and they were going to be placed in an inner city school, how would you explain the benefits or not of technology within an urban context?

Int. F: I think that technology comes in where there is a lack of something. Technology is assistive, isn't it? So where there is a lack of expertise or a lack of realism or a lack of expertise...or authenticity, then sometimes a YouTube clip can bring something authentic into the classroom...but if there was someone who was authentic in [the] classroom, I would not want to change them to bring them sort of more up to date or something...yes, that wouldn't be for me. You see the thing is with technology once it becomes part of your practice, it is impossible to reverse it. Once it becomes part of

your teaching practice, it is impossible not to be intimately involved with it...and then reliant on it.

(Appendix 01:67)

Freddie sees technology as assistive, and restorative also to some degree, still optional and context- dependent. Whilst apparently eschewing McLuhan's vision of technology as an extension of human reach and capacity, Freddie at the same time recognises the irreversibility of the paradigm shift (Kuhn, 1962) it has enabled. I sense a note of caution in Freddie's final remarks regarding irreversibility and reliance. There is a sense that a Kuhnian shift caused by the assimilation of technology into one's praxis engenders reliance, or from a dystopian perspective, a dangerous over-reliance and abdication of control. The unrelinquishable permanence of the multi-faceted prism of technological possibilities becomes the cost accrued through access to the praxial (Elliott, 1995, 2005) benefits afforded to the agent by the expanded virtual environment.

Freddie's response to the question of value with regard to YouTube within a classroom environment carried several interlinked critiques. Freddie suggests that YouTube could stymie creative action for young musicians because of the ubiquity of exemplar musicianship comparisons available on the platform.

Int. F: Yes there is a sense with young people that there is nothing [new] to do any more, that absolutely everything seems to have been done. And so in terms of music so many people I have worked with or taught have said 'Oh, I sound like Fred Frith or I sound like Steve Reich' or whatever...And it's very hard for them to think outside of that because they are constantly aware of other influences.

(Appendix 01:68)

The sense is that the oversaturation of YouTube media is denuding the content of value and there is an inference that scarcity increases value, whereas ubiquity devalues whilst simultaneously increasing choice. The increased choice of content, regardless of perceived quality, affords greater possibilities for novel, sometimes serendipitous, combinations of media, that have the potential to produce new knowledge (Boden, 1994, 2004; Koestler, 1964). Freddie relates two extremely positive attributes that are inherent within the YouTube platform: firstly, unfettered access to a secondary, two-dimensional visual representation of

musical authenticity; secondly, the platform allows the illusion of an otherwise impossible asynchronous presence at a live musical performance captured from multiple audiovisual perspectives, depending on how many creators recorded and uploaded the original event.

Int. F: Yes...there is two things...it adds massive value in terms of authenticity...and in terms of giving people a sense of being at a concert...a sense of being in a place where it would be impossible for that to take place usually.

(Appendix 01:67)

The conversation considered the temporality of YouTube and how it can situate users in the past within a virtual circle of asynchronous memories. The ouroborosian algorithm of YouTube is constantly accelerating self-referentiality and reflexivity via the user's previous views, ultimately ending in reproduction and replication, eventual stasis being avoided by the exponential increase in new uploaded YouTube content.

NRG: Yes, I agree...and the resource is constantly being added to...

Int. F: Its is very difficult to teach with any fixed notions.

NRG: Yes, it's more like a stream...than an archive... it's constantly changing.

Int. F: So it's harder to place a particular value on a particular thing ... I guess.

Int. F: When you have just classroom culture.

NRG: Yes, but it keeps the whole thing in the now, as time moves forward and as YouTube moves forward.

Int. F: I don't know about that, I think that YouTube kind of locks people in the past in a strange way...because...

NRG: You can only put in what has already been...yes, in that sense it's always in the past, when you see it tonight, it has already happened so you're not in the now.

(Appendix 01:68)

YouTube is a highly functional learning platform for the professional musician. When Freddie was asked whether he used YouTube for his own personal musicianship, he replied, 'I think just for the sheer ease...I would use it for learning parts...yes, I do. Absolutely.' However, Freddie explains that YouTube can be an Arcadia for the professional musician who has the previous knowledge, experience, discipline and self-control to leverage its affordances. However, the same cannot be said of his experience of student use.

Int. F: Well, I have done stuff when I have asked the students to find things...Yes, so I go and say, 'Find some Jazz from the 1930s'...but having said that, it is very hard for the students to input something into Google or YouTube without it giving them something that they are already inclined to [previous viewing habits], it is very hard to go into the complete unknown because of the way you input a particular word that is familiar to you...it's like opening a book and you can find something that you've never seen before in an encyclopaedia or something like that...but with YouTube or something like that, they will almost always go to smooth jazz...chilled jazz...some form of jazz that they've already got some sort of concept of.

(Appendix 01:68)

The students initial search input is instantly biased as a result of previous viewing habits or searches thus limiting and homogenising the virtual environment offered. The student's ability to leverage affordances is skewed by the bi-front modulating capabilities (Floridi, 2014) of the interface, which is controlled and embedded within the ideology of YouTube (Postman, 1993; Hassan, 2004).

The next question features the word 'surprising'. The adjective 'surprising' appears in Swanwick and Tillman (1986) and their spiral model of musical development and is used extensively in academic works on creativity (Boden, 1994, 2004; Burnard, 2007, 2012; Wiggins, 2015). Freddie affirms the innovative possibilities for YouTube to foster creative action.

NRG: Have you ever thought of an innovative and surprising and effective use of YouTube...and you have thought, 'I couldn't have done that without it [YouTube]?'

Int.F: Yes...I'm sure there are reams of time where that has happened...

(Appendix 01:70)

YouTube virtuality, as with actual reality, provides an excess of Orwellian 'bread and circuses', but the compartmentalizing of reality, actual or virtual, into discrete disciplinary areas may prove convenient for quantitative analysis (Papert, 1990). However, the concept of schemata or cladograms of the complete panoply of interactions between subjective fields or supposedly discrete domains such as work, education or entertainment and human agency is somewhat flawed. The theoretical separation of YouTube content into genres assumes a phenomenological intersubjectivity over the possibility of the solipsistic for example, one man's meat is another man's poison.

Freddie's thoughts on technology and increasing efficiency once again trigger thoughts of Heidegger's 'The question concerning technology' (1954) and Horkheimer and Adorno's 'The Dialectic of Enlightenment' (1944/2016, see also Garner, 2014) regarding man's propensity to dominate nature and predilection to dominate other men by technological means. The question was:

NRG: What do you think the future holds for musicians and music educators within an increasingly networked and interconnected world, where everything is talking to everything and your metrics are being triangulated every which way?

Int. F: I don't know...but I think that music education is going to come under the same kinds of pressures that other forms of education have come under, in terms of increasing efficiency.

NRG: Performativity?

Int. F: Yes, and the pressure to assess in short snaps, not being able to assess a student as a whole...(tannoy interruption) and to be able to make accurate interventions and diagnosis and supposedly accelerate the learning process...but I suppose technology works in that way and that it is about efficiency.

(Appendix 1:70)

The previous quote is reminiscent of the neoliberal section in the introduction and methodology sections of this thesis and thus resonates with the works of Ball (2003, 2012) and Fejes and Nicoll (2008) and has ramifications for professionalism (Cunningham, 2008). However, rather than seeing technologies as prosecutors of the efficient in this conversational exchange, Freddie has tacitly highlighted the need to assess technology's value and its ethical

position within educational practice. Efficiency requires focus. Focus necessarily precludes speculative oscillations of attention between seemingly disparate ephemera. So, I would posit that continued aggressive adherence to performativity strategies and efficiency may limit the instances of both student and teacher insight and creative action.

NRG: Are there any illuminations, observations on the educational or otherwise use of YouTube that you would like to share?

Int.F: The obvious one is the Lucy Green 'Musical Futures' stuff...as, I've never really learned like that.

NRG: Do you learn like that now?

Int. F: No...when I learn a piece, I don't do it from YouTube...probably should!

NRG: I bet you see plenty of kids coming in with stuff they have learnt from YouTube...either getting it visually or kinaesthetically or sometimes aurally.

Int.F: Yes, I have! It would be interesting to see if YouTube could be interconnected by people rather than an algorithm?

(Appendix 01:71)

Siemens (2005, 2008, 2008a) and Papert (1980, 1980a) would argue, along with Freire, Illich and Vygotsky, that social media is indeed connected by people. Illich's learning webs first promulgated in his seminal text 'Deschooling Society' (1971) posited a future in which communities of practice (Lave & Wenger, 1991) would be connected by learning webs not dissimilar to those now realised by social media technology (Hart, 2001; Jandrić, 2014). This blended learning position between two conceptual spaces or realities; the actual and the virtual, affords the actor the opportunity to synthesize the dual realities (Lifton & Paradiso, 2009) into a merged, expanded reality. This constructionist (Papert, 1980a) fusion of actual and virtual perceptions suggests the constructivist (Piaget, 1950) possibility of an augmented or adjusted reality being seen as both new knowledge and an expanded habitus: a preferred perceptual reality.

Freddie makes an almost ineffable observation about the immersive qualities of moving through the interface and the simultaneously embodied interweaving (Merleau-Ponty, 2012, 1997; Zuss, 2012) taking place between and within both the visceral and the virtual world.

Freddie sees past the content and appears to sense that the natural human propensity for reciprocity within whatever environment, however constructed, is being somewhat 'steered'. Freddie senses a feeling of plasticity and changeability as opposed to the comparatively stable reciprocity of the natural environment. The virtual world appears as a world without gravity, free from the established Newtonian laws of physics. The knowledge that echoes back from the bi-front interface is being constantly manipulated and modulated. This algorithmic manipulation appears to cause Freddie a profound sense of unease. In Gibsonian (1977, 1979) terms, our evolutionary perceptual tools would be deemed ill-equipped to cope within such a contained and manipulable environment where perceptual invariants no longer exist.

Int. F: There is, like this feeling that you are dealing with something that is like plastic...and erm...changeable...it's not just content...you are inside something.

(Appendix 01:71)

Interviewees tend to start the interview process relatively optimistically. However, most end bemoaning the incredibly invasive price that we all pay for access to Google and, by dint, YouTube's ever-expanding *Wunderkammer* or cabinet of curiosities. Freddie wonders if it is even possible to function outside of the Google omnopticon (Jensen, 2007).

Int.F: Is it O.K. to function outside of it now? Because that's the question everyone always asks. People often say, 'Google...I hate it, they know everything that I'm doing'. But how do you operate outside it?

(Appendix 01:72)

Theme	Appendix 01: Page	Key words
Value	:66, :67	The visual thing is a valid thing. (:67) Technology comes in where there is a lack...YouTube can bring something authentic into the classroom.

Meme journey + (positive)	:63	Yes, creative but it's draining very draining.
Meme journey - (negative)	:66	Once you are on YouTube, it's basically non-stop.
Creativity	:63	Creative and you end up with a result you didn't expect.
Curiosity	:70	Reams of time where this has happened.
Control	:70, :71	In terms of increasing efficiency. (:71) dealing with something plastic, changeable.
Connectivity	:64–65	Being able to connect strange things.
Archive	:67	Massive value in terms of authenticity.

Table 8 - Freddie's superordinate themes

George

NRG: I am interviewing George, [a] newly qualified teacher and expert musician and keyboard player, pianist and choirmaster and arranger of music.

NRG: George, what I'd like you to think about is how YouTube has affected your musicianship since it first appeared in 2005 and if that affected your music teaching in any way whatsoever? Has it?

George instinctively responds with, 'So I haven't really used YouTube as a learning resource.' However, this statement is quickly countered with,

Int. G: I used YouTube more in the beginning for listening to music and also for watching some of the piano players I was really into...so at the time I was really into a lot of jazz players and I used to find videos of them not necessarily to learn, but just to

hear them...I've also used it a lot for [watching] interviews with different piano players and different musicians.

(Appendix 01:73)

Listening is learning. When George listens to music, he learns. I would suggest that his immersive listening habits enable a phronetic learning exchange supported by his tacit knowledge (Eraut, 2000; Polanyi, 1958, 1966), and his explicit professional musicianship.

As a professional classroom practitioner, he directs listening predominantly as a goal-orientated activity to enable the procedural acquisition (Koedinger & Corbett, 2006; Shell *et al.*, 2010) of explicit codified knowledge with the learning aims being specifically matched by the teacher to the selected audiovisual exemplars via YouTube. George differentiates between the explicit learning offered by YouTube 'hands-on' learning tutorials and YouTube as an archival listening resource.

Music listening for George seems to be an immersive form of implicit learning (Frensch & R nger, 2003). Implicit learning is a contested term that is described as a natural process whereby an agent can acquire knowledge about an environment of complex stimuli, such as musical sound, and its underlying structures by the decoding of sensory and social signals that are supposedly beyond verbal instruction. Implicit learning is, simply put, a term for learning via exposure (Bruneau, 2014).

Int. G: With regards to the classroom, I use it [YouTube] pretty much in the same way as I used it, which isn't necessarily as a learning tutorial but as a listening resource...It is a huge resource to show examples of things that you might be talking about. I have never...like I say I haven't really used it for tutorials, I have mainly used it for examples.

(Appendix 01:73)

George sees YouTube as a ubiquitous and potentially transformative educational resource that has the capability of creating experiential learning regardless of the spatio-temporality of the point of access. In a formal classroom setting George regards the teacher as the primary filter or pre-interface, modulating content selection and content access, providing heteronomous guiding for the student towards preselected educational YouTube access points. The facilitated access points or pre-selected videos are intended as a springboard for andragogic use when

the student moves beyond the 'walled garden' of teacher facilitation and the formal learning space.

Int. G: I think as a teacher, it's not one of these resources that you only have available at school. YouTube is not a resource that you only have at school. The kids can have it everywhere, they have it on their phone, they have it on their iPad, so I think the role of the teacher with YouTube is...If it was like a book, you can show them which page to read...to try and steer them in the right direction. (App. 01:73)

George's advocacy is tempered with issues of authenticity and accuracy regarding the multitudinous 'how to play' music tutorials posted on YouTube. However, given that he is an experienced and well-schooled musician he can easily filter the authentic and the accurate and funnel his filtered findings safely through to his students. The vetting of YouTube videos for educational use is essential; yet time-consuming, and also increases levels of control and compromises content selection due to safeguarding issues. The consequent lack of in-class *ad hoc* spontaneity reduces possibilities for content surprise (Boden, 2004) and/or attention shift as prerequisites for creative action and new knowledge production.

NRG: OK. What words of wisdom would you offer a beginning music practitioner regarding the use of such technologies as You Tube within the classroom environment?

Int. G: Well, there's the obvious one: vet all your videos before you use them. Because you can obviously end up with the inappropriate...but I think it's about finding good resources, whether you're talking about examples or tutorials...but actually vetting them and making sure that they are well constructed, and pointing them in the right direction because there is any amount of rubbish out there because any man and his dog can create a YouTube video about something...you know, so it's about vetting the resources before you use them. (Appendix 01:74)

George offers an understandably reactive and sensible piece of advice. However, a proactive suggestion may well have been that whenever your skill set permits, upload bespoke, self-created exemplars. Himonides (2016) suggests a personal reflexivity whilst raising issues of professional development and political control

Teachers cannot be passive recipients and consequent conduits of predefined educational *praxes*; they need to be in a position to shape their own and their students' learning, and critically assess what their needs are, as they are being formed.

Himonides (2016²⁴)

George intuitively self-critiques his previous answer and explains an innovative pedagogic method to counter the limited time and space afforded to Key Stage 3 music provision of between 50 minutes to one hour per week.

Int. G: Teachers could actually do virtual examples of the lesson...sometimes what I'll do is I'll [make] learning tracks of the parts that they've got to learn...I have yet to do it on video but I have done it on audio, and I suppose if you were able to model something...is to create your own resources on YouTube that the children can then access on the iPads...so you are effectively teaching that many people in different rooms y'know...It is still you...but you are reaching a lot more people via the iPads.

(Appendix 01:74)

This virtually enabled, asynchronous teacher presence allows individualized content access to more students who can work at their own pace within a virtual one-to-one space, a possible platform for an omnipresent pedagogy rekindling Basil Bernstein's claim that soon there would be "no space or time which is not pedagogised" (2001:377). However, there appears to be no shortage of virtual space! George occasionally regards technology as other, different or an add-on when he speaks of musical or educative ideas that he has presented, 'I think that there is stuff that I bring in that I have picked up in real life' (Appendix 01:74). He quite reasonably maintains a necessary differentiation between the actual and the virtual. He realises that YouTube videos are a selected compartmentalization of non-curated, mostly analogue realities now digitally divorced from their original spatiotemporal context and made available for limitless recontextualization by the user. However, it is important to remember that almost all of YouTube's content started, as George would say, 'in real life.' (Appendix 01:74)

²⁴ Himonides, E. (2016) 'Educators' Roles and Professional Development'. In S.A. Ruthmann and R. Mantie (Eds.), *The Oxford Handbook of Technology and Music Education*. New York: Oxford University press. [Submitted for publication.]

Appendix 01:75 begins with a discussion of the balance between the rational use of the YouTube platform and intuitive use within the classroom. The convergent critical thinking model of rationality is the accepted, and expected answer from a qualified professional when planning for the use of technology. However, a hidden praxis with regard to YouTube use is emerging whereby divergent creative thinking strategies are synthesized sympathetically into a live classroom environment as a considered professional response to unforeseeable learning trajectories and students *in situ* learning needs. Foucault (1991:83), distils the inquiry with this aphorism, “The only important problem is what happens on the ground.”

George required further confirmation and reassurance of his absolute anonymity regarding this research before we could continue.

Int. G: All right...all right...O.K. I can relax a little bit [respondent reassured].

NRG: So with regards to vetting...do you really always vet your clips before?

Int. G: No...no, no one does. (Appendix 01:75)

As an experienced music education practitioner, I would have to agree with the above statement.

NRG: So the model of all practitioners being rational in their use of YouTube is, would you say, mostly theoretical? Teachers on the ground, when they are actually in the lesson, don't plan every nth degree of their YouTube use. So you are saying something along those lines?

Int.G: Mmm...[affirmative] (Appendix 01:75)

Extrinsic controls and, to a greater degree, self-surveillance (Foucault, 1977; Jensen, 2010; Kelsey, 2015) appear to inhibit intuitive YouTube use, which curtails creative action and limits the leveraging of affordances. George graphically illustrates the very real risks involved.

Int. G: I mean, I would never do anything like that if I was being observed for example...never, never click on videos because you never know what might happen...If it was a video that was uploaded two hours ago it could literally have a pair of boobs in the middle of it. (Appendix 01:76)

It must be remembered that YouTube is far from a complete archive of everything: it cannot represent the collective consciousness of all users. Content is provided by a relatively small percentage of creators, both user generators and professionals, who in turn, are controlled by the private company that owns YouTube. Despite YouTube's apparent omnipotence, it appears to flatter to deceive. YouTube fuels want and desire at a price, but also offers itself as a platform for social interconnectivity and a space for creative endeavour.

Interestingly, George points out that YouTube clips also have internally pre-embedded meme journeys via which the creator could hijack the agent's intrinsic drive. The hyperlinked meme engages the viewer's curiosity, which is then reoriented or steered inwards by the creator's prepositioned extrinsically motivated material. This aims to keep the browsing agent from leaving the creators niche territory and remain within the curated space of the creator's channel.

Int. G: I've seen things where...with YouTube now you can actually embed links into the video, so that as the video is going through, it will come up with flashes on there of a little hyperlink...like in a little speech bubble of related things...and it came up with things like...If you want to see more of this performance, click on this link here and that was actually embedded in the video and then you could go on a journey like that.

(Appendix 01:76)

George critiques YouTube tutorials as they do not support a dialogue between the student and the teacher and, as such, cannot match the efficacy of one-to-one tuition (Bloom, 1984). Issues are also raised about the students 'just copying' exactly what they are seeing. It is interesting to note that for Clark Terry (1920–2015) considers imitation to be the first of three steps in learning the art of jazz, the second being assimilation and the third being innovation. YouTube seems to be a strong initial driver of musical ambition, matched well with the first imitative phase of musicianship, as proposed by Clark Terry. However, when pressed, George recalled his own successful use of the YouTube platform as a creator.

Int. G: ...When I was doing my PGCE²⁵, I uploaded tutorial videos for students to use in the class, so then they would all go away and use those to learn a piece of music.

NRG: And did that work?

Int. G: It did seem to work. It meant that everyone...the good thing about it was that people could rewind the video, some people would need to watch it through once and they would have got it others would need to watch it ten times and they still might not have it... So it meant that people could learn at their own pace...I think people found it useful.

George picks up an interesting point regarding technology-mediated learning (Oliver, 2012; Oliver & Herrington, 2003), by emphasising the absolute importance of differentiated learning velocities within a technologically supported, learner-generated context (Luckin, 2008, 2010; Luckin *et al.*, 2007). Individual hand-held YouTube use appears to facilitate successful asynchronous multi velocity learning within the fixed, curriculum-imposed time parameters of a single classroom-based music lesson (Kress & Pachler, 2007). YouTube when accepted as part of the ecology as opposed to a 'bolt on', has an instantaneity of exemplar access that can educationally empower *ad hoc*, *in situ* and *ex situ*.

Int. G: I think the strengths of it are, the chances are, if you can think of any piece of music, it is on YouTube and that it's immediately available to you in the classroom. You know how it used to be before? When we used to have CDs or tapes, vinyl recordings, whatever it was? Actually, now you have got anything available to you in the classroom, which I think is hugely beneficial if you want to show an example quickly of anything. For instance, if I was doing a lesson on time signatures, I'd remember a piece of music that might be in a really interesting time signature and then get that up on the screen straight away, instantaneously within about ten seconds, and I think that is YouTube's main benefit in the classroom, it allows you to provide real-life examples instantly.

(Appendix 01:77)

²⁵ Postgraduate Certificate in Education is training provided in England, Wales and Northern Ireland in which graduates complete a one-year academic course in order to teach within the state maintained sector.

However, according to Postman there can be cultural losses at the expense of technological advancement (Postman, 1993, 1998). As musicians and educators a phonetic examination of Postman's 'five things we need to know about technological change' (Postman, 1998) may prove advisable.

1. Culture always pays a price for technology.
2. There are always winners and losers in a technological change.
3. Every great technology embodies a philosophy, an epistemological, political or social prejudice.
4. Technological change is not additive, it is ecological. It changes everything.
5. Technology tends to become mythic; that is, perceived as part of the natural order of things.

Abridged in Postman (1998:5)

YouTube is useful for musical learning due to its global situatedness and ease of access and is a viable low-cost alternative for those who cannot afford the one-to-one learning experience. The more effective face-to-face aspect of learning (Bloom, 1984) can, in a sense, be simulated by using a YouTube live stream or Skype®. However, with human to screen learning there is a certain disembodied distance that disables some of the more nuanced facial responses and evolutionary 'mind reading' capabilities of the 'Machiavellian' ape *Homo sapiens* (Ramachandran, 2000; see also Wittgenstein and Darwin, in Garner, 2014).

Int. G: The one-on-one lesson once a week...you are never going to be able to replicate that...even if it is only for half an hour or something. But I think for some people...bedroom guitarists and people that want to learn, people that want to get better at home, people that can't necessarily afford one-on-one lessons or, for whatever reason can't have them, I think it is a massively valuable resource...but as far as my musical learning goes and probably not very helpful for your study...it hasn't influenced me hugely at all, it has just been something that I've used on the occasion when I need it...I wouldn't say that I've learnt off YouTube.

(Appendix 01:78)

George mirrors the main protagonist Bernie (Green, 2001) from my IFS study 'Autonomy, technology and music: informal learning in the classroom' (Garner, 2014). Bernie used a gramophone and played recordings at 16 revolutions per minute in order to transcribe jazz solos, and here we have George approximately 45 years later similarly engaged! George explains:

Int. G: I've downloaded, which is very slightly illegal, but downloaded stuff off of YouTube using an mp3 YouTube catcher converter, which you can do very easily, and then I've put that into a programme called 'Transcribe', which is basically a program where you can slow everything down but it still retains its pitch. So I've done that a huge amount. When I have had to transcribe solo's that's mainly what I've done. What I haven't done is gone onto the tutorial of how to play it.

(Appendix 01:78)

George also considers the fiscal implications of YouTube use, mobile data consumption and its direct relationship with business and profit generation. The question of authenticity is raised and George insists that he always searches for the original *urtext* wherever possible and will appropriate the music directly and not through a third-party YouTube tutorial. However, it is recognized that YouTube contains the authentic and the inauthentic for example, spoof videos with re-edited sound and vision (Erickson *et al.*, 2013).

NRG: Interestingly, with the piano you are looking at only one position for each note, only one spatial location for that pitch on the instrument, whereas maybe if you play the bass or the guitar, if you are looking then, then there are different positions in which you could play the same note...and then...

Int. G: Yes.

NRG: And then if you wanted to find the authentic position, you might need to...

Int. G: ...then use the video.

NRG: Yes. And have you ever done that on your secondary instruments?

Int. G: I haven't, but my brother has! Huge amount...he is basically the opposite of me. He is learning guitar through YouTube. He's found all sorts of stuff and he does just literally that, he copies whatever they are playing and he's found that immensely...I

mean he's never had a single one-on-one lesson in his life but he can make his way through all sorts of tunes. (Appendix 01:79)

YouTube as a medium for instrumental tutorials seems to favour some instruments over others. However, the audiovisual provides the contextualization of the sound via the visual performance and it also situates the happening in space and time. The live audiovisual recording of a musical performance allows the viewer to judge the reciprocity between the performer and the audience within a given two-dimensional representation of the given environment.

NRG: So do you think the value of YouTube [is] for live...for learning purposes, for educational purposes for a musician, on their own, or within a lesson in school [do you think that] it might be that the live video footage might be of more interest?

Int. G: Absolutely, yes.

NRG: Obviously you could get a mimed version of the track or whatever, but it is the live footage that's the stuff where you can find out exactly what it is that musicians do.

Int. G: Yes. And another thing that you get with the videos...is that you get the context of the performance. Sometimes with a recording you do not get the context of the performance sometimes by matching up the sound and the picture of what these people look like and the time. If it was a jazz video and they were playing in some kind of Jazz club or at some concert, you can start to see what these people look like and start to pair things up a bit more. You don't get that with audio. I think that is its value as well. (Appendix 01:80)

George then explains how access to YouTube's historical musical archive has rhythmically entrained his foot to tap whilst playing. It also suggests that access to the expanded ecology of resources provided by YouTube might unconsciously have affected George's musicianship more than he imagines.

Int. G: I mean, in order to fully encapsulate the way someone plays something, you have to totally imitate the way they play it. So it might be the way they are sitting at the piano, it might be the way they tap their foot really loudly...I mean I do that all the time...and it's something I've picked up. I mean Oscar Peterson does that all the time...I've probably, obviously picked that up from watching loads of videos of him.

NRG: There is a commercial angle to YouTube as well...as it is a for-profit organization, they are trying to sell, but interestingly the diversity of what you get fed by this search engine, if Web 3.0 works its magic, you are getting less and less diversity and you are almost getting a reflection of your self-reflection into an ever smaller and smaller loop until you've just got just you!

Int. G: I guess it might never come quite down to that but...

NRG: If you took it to its end concept it is going to come to a static point.

Int.G: It will yeah...[...] but that's why it's called YouTube.

Video selections based on previous viewing habits do not necessarily guarantee future viewing habits. The regressive loop sells back your own desires, needs and finally your own narcissistic reflection oscillating between a Deleuzian (1988) 'black mirror' of virtuality unrecognizably distorted by the hopeless inadequacies of your own perceptions (Appendix 01:84–86).

Theme	Appendix: page	Key words
Control	:74, :75	Vet videos. (:75) No one does.
Archive	:73	I've used it a lot for watching interviews of musicians. It is a huge resource.
Value	:77, :77	People could learn at their own pace. (:77) real-life examples instantly.
Meme journey + (positive	:76	Embed links into the video.

Meme journey - (negative)	:76	Never click on videos, you never know what might happen.
Access	:73	The kids can access it anywhere.
Context	:81	It might be the way they are sitting at the piano.

Table 9 - George's superordinate themes

Harry

Harry is a qualified classroom music educator teaching in the 11–16 years sector. Harry has teaching experience in both state-financed and the privately funded sectors. Harry works in a school three days per week and is a professional percussionist, arranger and vocalist during the remainder of his week and full-time professional musician during the holiday periods. Harry began teaching as a peripatetic percussion teacher in 2005, the same year that YouTube was first broadcast.

NRG: You are obviously successful at what you do, but to what do you attribute your success? Is it your personal abilities or qualities, the environment, the technology or a combination of, those things?

Int. H: Oh! It's got to be a combination hasn't it? I think technology has helped me massively and still continues to now it's allowing me to find my own pace and progression for free... there are no economic attachments.

(Appendix 01:101)

As a professional musician Harry is acutely aware of his continuing professional development requirements and, in Vygotskian terms, he feels secure in granting his YouTube selections the status of 'more knowledgeable other' (MKO) as a form of technology-enabled, self-mediated learning (Andrews, 2013; Luckin, 2009; Vygotsky, 1978, see Garner, 2014). Harry also sees YouTube as a valuable sharing space, a neutral intermediary zone enabling learning exchanges to take place at his 'own pace and progression for free.'

(Appendix 01:101)

Harry experiences a total dyadic separation between his music educator and professional musician personas and maintains that 'they are two very different hats...I don't think the two are similar.' Interestingly, Harry's personas are synthesized through his use of technology, as the panopticism of Google and by extension, YouTube, does not differentiate between his personal and professional use.

Harry could be experiencing an incompatibility of lifestyle that has so often plagued those wishing to maintain a late-night professional performing career and an early-morning classroom teaching position! Harry's overt dissonance between his chosen careers suggests a difficult split reality where the different ontological positions are stabilized through an uneasy balance between convergence via critical thinking and divergence via creative thinking. The very term 'teacher' suggests purpose, curriculum and bias within a field or habitus supporting a set of shared beliefs or truths as *doxa* (Bourdieu, 1977), a difficult environment for a creative musician.

Harry recommends a 'safety first' approach to YouTube use within the classroom environment, advising vetting for appropriateness, accuracy and relevance to learning objectives. However, given an educationally purposeful context, he is willing to select a non-vetted video recommendation from the right-hand column of suggested related video clips. Harry fully understands the risks and responsibilities of *ad hoc* improvisatory use of YouTube but that is balanced against his professional judgement and the balance of probability 'on the ground'.

NRG: Do you ever think to yourself 'Maybe I'll have a look at that...on the 'fly' as it were?

Int. H: In the lesson?

NRG: Yeah.

Int. H: Well, you do, but it is at your own peril, isn't it?

NRG: But...

Int. H: Assuming that you are in safe hands and it's coming from a source that you know to be all right.

NRG: But you would...deviate...if it looked interesting enough and it appeared to be educationally useful...and if it wasn't, you could quickly jump off it?

Int. H: Oh Yes! Absolutely!

On the question of whether Harry is more intrinsically motivated than extrinsically motivated,

Int. H: I think I have to be, in a funny way, led from the outside but I go to the source to get it...like I say, I see things on the Internet that inspire me and motivate me to continue to try and develop as a musician.

(Appendix 01:102)

Therefore does it follow that the extrinsic nature of YouTube disproportionately favours those who self-report as extrinsically motivated? Is YouTube a bi-frontal educational force that both collapses and enables curiosity and creative action in equal measure according to the psychological temperament of the user (Litman, 2010; Litman & Jimerson, 2004; Litman *et al.*, 2010)? Would it follow that the extremes of scarcity and ubiquity can both be powerful drivers of creative thought and action? Necessity navigates the human agent regardless of the ecological richness of the environment and, as such, creative action should not be stymied by the scarcity or ubiquity of ecological resources, or YouTube content (Appendix 01:103).

The question below was posited to probe the difficult world of non-formal learning, implicit learning and tacit knowledge (Eraut, 2000; Polanyi, 1958, 1966). Harry's positive affirmation of his experience of silent knowledge exchange prompts a comparison between the silent, non-deliberative learning interwoven into 'real life' musical communities of practice (Lave & Wenger, 1991; Waldron, 2012; Waldron & Veblen, 2008; Westerlund, 2006) and the implicit learning possibilities, or affordances offered virtually through the immersion, exposure and experiences of YouTube.

NRG: So presumably there are times as a professional musician when you are amongst musicians from which you learn something when you were supposed to be part of...but you are actually learning something and people [other professional musicians] may well learn from you and not really say anything...and then you've got the educational bit, where you are the educator and you're supposed to be the one with the knowledge and you're teaching people...but occasionally I suppose you can also learn from students.

Int. H: Absolutely! Absolutely, yeah.

(Appendix 01:103–104)

Harry recounts a serendipitous encounter whilst browsing YouTube that encapsulates his collative experience of the mental mapping of previous schema and experience (Grace *et al.*, 2012; Wiggins & Battacharya, 2014) onto a new musical topography. This combinatory mapping allows Harry to visualise possible creative actions. The mapping process superimposes his bespoke technical skills and other musical attributes over the media thereby enabling the perception and leverage of the available affordances. There is also a palpable sense of excitement and optimism generated over the musical journey that has become available and the future opportunities it may present.

Int.H: I just stumbled across a video which was [Ralph Peterson] playing through a bunch of tunes and realized when I paused it that it was the start of an entire hour-and-a-half master class, which I can't wait to get back to...so watching him play I came across some particular lick that he played that I realized was in my rudimentary ability but I haven't yet orchestrated it on the instrument in the way he has. So, that was sort of my mission for today, to sort of figure it out, go back, watch it again, try it out, check out all the different permutations of how it can be played and the different subdivisions and what have you...and that's just one technical thing that has turned into an entire ribbon of musical possibilities and language.

(Appendix 01:104)

Following on from Harry's cognitive mapping experience, I asked about the importance of the visual aspect of learning music with particular reference to screen-based learning. Harry placed the visual aspect second to sound, saying if you 'shut down your entire sight and just closed your eyes and had it in headphones and listened to it. It would become a whole different journey and it would actually be more of a live sensational, effective experience that you would be having...so, the visual is definitely the second' (Appendix 01:105).

This aligns with Aristotle's *De Anima* (Aristotle, 2015: 413b 4–10) in which touch is seen as the primary and essential sense and much later Serres (2008) concurs. The direct relationship between oscillation, vibration, sound and touch link music to the most ancient of senses: sound is touch from a distance (Fernald, 2012; Trower, 2012). However, humans have always

learned socially by holistically interpreting the Gibsonian 'sensorial flux' through an embodied multi-sensorial experience (Merleau-Ponty, 1945). As Harry states in his response regarding vision and its place in practical musicianship,

Int. H: Why you would get all sorts. You would get what hand to use, what other parts of the body are being used at the same time and how the whole thing fits together. As with juggling, what is each hand doing and how many balls are in the air etc. So, you sort of get to take snapshots, sort of freeze-frames as things are going to see the order in which things are going to enable you to successfully try it out.

(Appendix 01:105)

Harry very occasionally reads the posted comments on YouTube and will sometimes selectively enter into a specialized dialogue with other musicians as a process of mediated learning through sharing with each agent acting as the others' MKO. This esoteric connectivity between like-minded musicians creates niche pathways and sanctuaries within the digital environment, as predicted by Gibson, allowing for small, highly specialised musical communities to share.

Int. H: I sometimes share some things with other fellow drummers because that usually snowballs into them saying, 'Yes seen that, have you tried this?' and it becomes a dialogue with others...rather than it being global, as you never know what Tom, Dick or Harry is going to respond.

NRG: So...That dialogue might lead you on to a meme journey? And you are off finding other things that are linked to it [your initial YouTube discovery]?

Int. H: Yeah! Or not necessarily linked as in hyperlinked, but potentially, 'If you liked that then check this out'...kind of thing [predictive column] there might be a link that only a certain few drummers can identify with.

(Appendix 01:106)

In one question (Appendix 01:106) reference is made to YouTube as a marketing device and how the new currency is data and how data enable predictability and predictability enables profit (Appendix 01:107). The conversation produced a deeper, third iteration analysis entitled 'The Environment and Energy Exchange Mechanisms'. My thoughts unfolded as follows:

energy can be regarded as the first currency within the first marketplace, the first market place is the environment; humans take energy from the environment, for example, food from plants and animals plus shelter and warmth; in turn humans become an energy resource for other animals and eventually plants through biodegradation etc.

This exchange of energy from $A > B$ and $B > A$ within a closed autopoietic ecology of resources has over time been formalized into its symbolic version, an economy. So we have gone from ecology to economy. Energy or power is now being symbolically represented by money (currency) and now the new currency is data, and data are power.²⁶

Harry is faced with a virtual Meno's Paradox when asked his thoughts on searching YouTube for a certain type of content and then being offered recommended videos that are similar or connected algorithmically. The paradox being, how do you find novel content on YouTube that is outside your current awareness if your current searches always influence future algorithmically selected recommendations and your past searches inform the initial YouTube home screen and populate it with recommended content before a new search is even typed?

Meno: And how will you inquire into a thing when you are wholly ignorant of what it is? Even if you happen to bump right into it, how will you know it is the thing you didn't know?

(Meno 80 E 1–5)

This scenario has been illuminated in the literature review with regard to an agent's inability to perceive Gibsonian affordances and thereby be unable to leverage them (Grossnickle, 2016). The programmed reflexivity built into the bi-front interface between the user and the virtual platform limits the production of novel recommended content, promulgating instead a self-reflective loop of spiralling self-referentiality. This previous habit-based virtual mirroring results in introspective homogeneity of non-disruptive, undifferentiated video recommendations. However, as with scarcity and ubiquity, extremes of similarity and difference present their own niche affordances and create possibilities for surprise, attention

²⁶ Technology is now ubiquitous. To function and survive, you have to be visible to some extent within the infosphere. The Internet as waterhole analogy: all animals have to drink at some time, both prey and predators, but who owns the waterhole?

shift and curiosity that, in turn, can lead to illumination, insight and creative action (Litman, 2010, Litman *et al.*, 2010).

Interestingly and somewhat contradictorily, the description of an inward-looking interlocking relationship between the user and the YouTube platform is not dissimilar to Hofstadter's description of the human mind as a self-referential system when he states, "In the end, we are self-perceiving, self-inventing, locked-in mirages that are little miracles of self-reference." Hofstadter, (2013:363).

To some extent Harry has found the self-referential recommendations helpful but he adds practical caveats in his answer that circumnavigate the potential predictive myopia inherent in YouTube as intelligent design.

NRG: So what do you think about that kind of thing where the more you look or search for the same kind of thing the more you get fed the same kind of thing in your right-hand column of recommended video choices and that it really is 'You' Tube? What's your thoughts on that, and where and how you are going to find things that are outside your current awareness? How would you source novel content? How do you feel about the fact that you are actually creating your own playlist based on what you have previously watched? And were you aware of that until I just mentioned it?

Int. H: I was aware but I certainly haven't given it that much thought. So far it has been very helpful for me.

NRG: Because it keeps you in the zone?

Int H: It does, It does and it's...there is a bit of sifting required, though, as I don't need to see a teenager in his bedroom playing a single stroke roll really fast on a practice pad...again! Or an interpretation of a lesson on how to achieve that...again!

Perspective is great and to get as many perspectives on a thing as possible is fantastic but then you start to...you have to have an awareness...you can't just focus on that...you still have to have a broader awareness outside of YouTube on what to watch and, more importantly what not to watch! But I find it helpful.

(Appendix 01:107–108)

Harry's comment signals that he is the final arbiter, and that a 'broader awareness outside of YouTube' or self-control is required to navigate, as opposed to being actively or unconsciously steered, through environments, either virtual or actual. The virtual and actual realities are analogous in many respects, especially when metaphorically hunting or foraging for new resources or data as 'informavores'. Despite the chronesthesia (Miles, 2010; Miles *et al.*, 2010; Tulving, 2002) or multi-temporality of YouTube, YouTube searches tend towards reflexivity and somewhat ouroborosian outcomes.

Continuing with Miller's 'informavore' metaphor, searching the Internet fully illuminated by your Internet protocol and signed in to your Google account address could be seen as analogous to a daylight hunt or search. If searching by night your Internet protocol address would be obfuscated and your search engine might be Tor²⁷ or I2P²⁸ (Invisible Internet Project) your environment, the aptly named 'dark web', would host a somewhat different ecology of resources and affordances both negative and positive, as with the natural nocturnal environment.

Harry has adjusted his privacy settings to block advertisements. I suggested to him that he would mostly be targeted by percussion-related advertisements on YouTube.

Int. H: Well you would think so! But, I got to be honest...even though it is a massive money- making market is the drum world...I get ads for other stuff because I might have visited a brand-new website and ordered a bicycle inner tube!

(Appendix 01:108)

²⁷ "Tor is free software for enabling anonymous communication. The name is derived from an acronym for the original software project name 'The Onion Router'" [https://en.wikipedia.org/wiki/Tor_\(anonymity_network\)](https://en.wikipedia.org/wiki/Tor_(anonymity_network))

²⁸ "The Invisible Internet Project (I2P) is an overlay network and darknet that allows applications to send messages to each other pseudonymously and securely. Uses include anonymous Web surfing, chatting, blogging and file transfers. The software that implements this layer is called an I2P router and a computer running I2P is called an I2P node." <https://en.wikipedia.org/wiki/I2P>

This quotation exemplifies the limitations of algorithmic predictivity and at the same time demonstrates the speculative reach and invasive nature of relentless wholesale data-crawling.

The conversation returns to the recommended video column and the predictivity element of YouTube as a collar for the discovery of new content.

NRG: The predictive content causes an oscillation between yourself...there is an echo in the room and the echo is you and you are being returned similar things incessantly...which is good if you are focusing, and focusing in my book, being the opposite of creativity, because the when you focus you are not trying to change, you are trying to perfect something that you already know.

(Appendix 01:108–109)

On reflection, focus is change, but on a micro level. Focus requires rapid oscillation between the challenge you have set yourself and the level of skill you possess excluding all distractions (Schaffer, 2013). Csikszentmihalyi (1996), suggests a state of 'flow' can be attained when the challenge to be met, and the skill set available, are optimally matched. 'Flow' is maintained through immersive and energized focus, which manifests itself as an effortless and perfectly balanced mediation between optimal skill and optimal challenge. 'Flow' appears to model an absolute reciprocity between the actor and the environment and, as such, 'flow' has all the hallmarks of a fully embodied experience (Merleau-Ponty, 1945). However, I regard focus as performative rather than creative, although of course not mutually exclusive, as micro-changes, as creative actions, are required to maintain optimum focus due to micro levels of fluctuations in the level of challenge and or, the relative stability of the environment.

Harry uses the familiar metaphor of the potter's wheel to describe his mediation and material engagement (Malafouris, 2013) with educational media retrieved from YouTube,

Int. H: Although you might learn a specific scale or exercise or whatever and then you start to meddle with it and be creative with it ...so you are actually sort of getting a little thing...like a piece of clay and then you are moulding it into whatever your imagination can come up with...so you are imitating to start with and then you start to test.

(Appendix 01:109)

The issue raised by Harry of creative agency judgement is explored by Malafouris (2013) within his concept of material engagement theory: he questions the 'I did it' claim of the self as sole agent over creative actions as does Bateson (1973).

Consider a man felling a tree with an axe. Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke. This self-corrective (i.e., mental) process is brought about by a total system, trees-eyes-brain-muscles-axe-stroke-tree; and it is this total system that has the characteristics of immanent mind. But this is not how the average Occidental sees the event sequence of tree felling. He says, 'cut down the tree' and he even believes that there is a delimited agent, the 'self,' which performed a delimited 'purposive' action upon a delimited object.

Bateson (1973:318)

One cannot help but notice the procedural similarity in the interface between the agent, the action and the outcome. Bateson's comment on a digital world could easily read,

Consider a man searching YouTube on his computer. Each subsequent search via the computer is modified or self-corrected according to the mental mark left by the content of his previous video selection.

This next question regards privacy settings as equivalent to a calibration of the actor's environmental receptivity, or the acuity of the actors 'cyber-senses' within a digital environment. Privacy settings can be set to limit or increase transmission and receptivity thereby adjusting the actor's digital visibility and accessibility to digital information. Similarly in the natural world proprioception of the senses is hierarchically filtered and suppressed by evolutionary processes to enable external stimuli a clearer reception (Shimony, 1971).

NRG: Yes. And it is very much the individual and the fact that if you do not adjust your privacy settings, you are going to get 'You' re-presented to yourself again and again.

Int. H: Yes.

(Appendix 01:111)

Harry recalls his first intersection with YouTube as being non-music-related entertainment. Entertainment can become learning just as learning can be entertaining; it is a matter of context, purpose and perspective (Slater & Rouner, 2002). Harry does not use the number of

hits on a particular video to gauge its worth or value but prefers to use his experience and musicianship to judge the quality of the video by the reputation of the content creator.

NRG: Using YouTube how do you mine backwards to find your mentors', mentors? To find out, like you say, you want to get your fingers under the carpet; you want to get to the truth of it. How do you do that?

Int. H: Well. You've got to I suppose...go to present, if you like, heroes, then they have these great things, particularly for my instrument [drum kit] and I think for a lot of other instruments as well, but for my instrument in America it is almost a way of life. Frequently there are master drummers travelling around the States delivering master classes at drum shops and schools and concerts and all over, world wide...if you like, and they are delivering what you might call these drum clinics and...they turn up and play and answer questions and usually these things are up on YouTube nowadays, so again I don't have to leave the house or pay any money to go to wherever...as I can watch it whenever I like, and they'll share their experiences.

(Appendix 01:114-115)

YouTube has collapsed physical distance and the concept of linear time. YouTube provides Harry with a portal to high-quality, asynchronous learning opportunities available on demand with no obvious fiscal transaction-taking place. The *lapis philosophorum* is the turning of 'big data' into predictive power; hence the virtual advertisements appearing on YouTube for inner tubes!

Harry confesses to undertaking negative meme journeys when he states' ...I don't know but I think you can lose so much time sat there clicking, clicking ...watching, watching...particularly through the night and into the wee hours...'. Harry brackets his searches as either exploratory, as in a goal-orientated searching with some musical purpose or recreational. What is deemed recreational is a matter of individual perspective and context. The purposes of YouTube are finally defined by the personal ontology of the user. Fossati (2009) describes the allure of a YouTube meme journey.

When looking at your computer screen with the webcam on, you are looking at your own reflection. YouTube reflects you and you reflect [on] Youtube. On the other side of the mirror all YouTubers are watching. For the YouTuber watching, YouTube is

hence a mirror maze. Reflections are endless and endlessly reflected into one another. Finding a way out of the mirror maze is as difficult as not clicking the mouse for the next clip, the next mirror.

Fossati (2009:460–1)

Harry browses around two hours per day between different hardware and platforms whilst mobile, often engaging in parallel tasking between the personal and the professional ' Well it's not ten minutes a day it's more like two hours a day...But then a lot of stuff you don't just sit in an armchair, now you do it on the move...you know you are on the DLR and...' (Appendix 01:118). YouTube gifts the user control of its ecology of resources, thus making the user pivotal in the generation of the learner context. Harry recounts an experience of this control.

Int. H: I have to go back and rewatch...and I'll watch the whole thing and then go to that bit, that bit and that bit...and then go back and watch those parts again and break it down for myself. I remember this morning making a note of a certain thing at 4 minutes and 47 seconds...so I am going to go back to that point and start that from there and then ...y'know.

(Appendix 01:118)

Harry disregards production values in favour of content and the degree to which the selected YouTube media suits his immediate contextual needs. Regardless of the audiovisual quality of the video clips, Harry looks for a spark, connection or the illumination of a hitherto unseen affordance. Harry reaffirms this position,

Int. H: No, again it wasn't production values. The sound was terrible, it was just off a phone, but the magic was there and therefore it reinforces other things...and I wasn't looking for this, but now I realize that, yes, I should spend as much time on other instruments and the development of my general musicianship.

(Appendix 01:119)

Harry verbally protocols (A. Green, 1995; Johnson & Brigg 1994, Sonnentag, 1998) how he would use YouTube in a standard educational 11–14 years setting to provide access to expertise and exemplar authenticity whilst relieving the sole music practitioner of the task of flawlessly modelling all the parts despite the often highly disruptive exigencies that classroom

teachers have to accommodate. This extended extract is necessary to evidence how praxis is affected by “real-world pressing realities and logistics” (Himonides 2016: IV)

NRG: Can you take me through a typical way you would use YouTube in a classroom, maybe something that you have done before that was reasonably successful that features YouTube and couldn't be done without it?

Int. H: OK. Let's take an example we both know and love! Mister Marcus Santos (2011) delivering samba.

NRG: Exactly! So can you talk me through that? Just protocol it through?

Int. H: All right! So just a quick explanation of what the aim of the game is or the session or the lesson or whatever it is and...you see the thing is that it takes the heat, not in a bad way, but it takes the heat off you, particularly that Marcus Santos thing.

NRG: Well he is an expert.

Int.H: Yes precisely! He's from the country, he's got all the gear there and he's speaking in the language, and all the vernaculars there, and also all those beautiful things that he has put in whereby he shows it to a click, and then you get to play along with the other parts, and you get to do things that one man or woman can't do necessarily in the classroom...that is rehearsed and performed, then again he might have done several takes and got it wrong and then he's put the best one up. You [classroom music teachers] don't often get that luxury, you (classroom music teachers) have to nail it live every time, even though you have just dealt with a student's nosebleed in break time so you turn up a little bit flustered, so if you have not got your 'A' game, and, as you would know as a musician, there is no way Mick Jagger would do break-time duty before he goes on stage at Glastonbury!

NRG: True! [YouTube] provides a ready-made expert who is not tired and is at the top of their game and consistently good!

Int. H: The sound quality and visual quality is also good...yes.

(Appendix 01:120–121)

Harry suggests 'Synthesia' piano tutorials where descending colour-coded notes align with the corresponding piano keys which is a system almost identical to an earlier technology involving piano rolls: once again technology being used to replicate. When asked about the strengths and weaknesses of YouTube with regard to improving overall musicianship the strength was very specific and the weakness general and seemingly an almost universal problem

NRG: OK. So we've got that. What do you consider to be You Tube's main strengths and weaknesses with regards to improving overall musicianship?

Int. H: Well the vast amount of sharing that can be done internationally and globally...I think is brilliant. Sometimes live, you can watch someone playing something on the other side of the world and have a dialogue with them. It is pretty amazing!

NRG: What about the weaknesses?

Int. H: I think you can get sucked in. You can spend too much of your time watching and not enough of your time doing...I think. You have to...You can be oversaturated by it all and actually the very thing that you turned up at the computer looking to find can turn into something [laughing]...500 things and then you're...'what was the thing I was just looking for?'

NRG: So that is being led on a journey by YouTube and being distracted by other things...

Int. H: Distracted. Yes.

NRG: And then you move on to the next thing without attending to the work you intended.

Int. H: Yes. But sometimes it can be a good thing as you find something else and your priorities shift and you start on something else.

(Appendix 01:122–123)

Harry's browsing experience displays Berlyne's (1966) differentiations between curiosity as perceptually driven and diversive or epistemically driven and specific. As Harry's initial epistemic specific search begins to collate with his perceptual drives, a gradual shift enables the ascendancy of a perceptually driven, diversive search, thus creating a pathway to a shift in

'priorities' that repositions the original goal and either accepts the re-oriented search or causes it to be abandoned. The serotonin search of a gambler's pathology (Schüll, 2012) seems to assist this negative meme journey process, and focus on the specific is replaced by diversive attention shifts and perceptual distractions. The individual now exhibits increased receptivity to the curious video clip and the perception of its affordances to trigger the possibilities, or not, for insight and creative action. Or, as Harry puts it, 'Your priorities shift'. (*Ibid*)

Harry aligns speed with impatience and the desire for immediacy, allowing little or no time for mediation or incubation. Technologically expanded reality affords capabilities that, according to Postman (1998), will cause reciprocal cultural adjustments. Postman's fear is that the tail of technology will eventually, if unchecked, wag the dog of humanity.

Int. H: One of the drawbacks is that it is all about time and we want everything immediately really. We are so impatient! If you're listening to someone just waffling on...why not get right to it and show me straight away.

(Appendix 01:124)

The next question was aimed at exploring Harry's position on technology-enhanced mediated learning (Vygotsky, 1978) using more knowledgeable others (MKO) and technology to progress through the zone of proximal development (ZPD), implicating the validity of Mercer's (2002) additional zone, the intermental development zone (IDZ), as peer-to-peer learning without the MKO but possibly supported by a technology, such as YouTube. Recently Littleton and Mercer (2013) have also proposed an intermental creativity zone (ICZ) to enable the communal creation of a learning framework built on the mapping of each participant's individual knowledge schemas to synergise a joint creativity beyond that achievable alone.

However, Harry chose to answer in a more phenomenological mode, alluding to the embodied experience of actually being physically present at music performances as opposed to the simulacrum offered by YouTube. Harry does point out that the ubiquity of performance content available on the YouTube platform, given its constant accretion and availability, make it a popular second-hand reality choice for those unable to attend live performances.

NRG: Do you think that YouTube could be used in conjunction with a real one-to-one human teacher or would having that human one-to-one teacher make YouTube redundant?

Int. H: No. I think that it. Look...before YouTube the things you needed to do to become a better musician was to go and see other musicians and gigs.

NRG: And what were the benefits of going to see it live?

Int. H: It was to see the thing. The very thing that you now get from YouTube. Now I am not saying that YouTube has replaced live performance because I think there are so many more valuable things that you don't see through the lens that you see, feel, taste and smell in a music venue and people who go to festivals experience...that and they come away feeling a little bit on a high and this can stay with you for a considerable time and make your year, change your life, or whatever! I think you only get a simulation of that through You Tube ...but the thing is there is so much more of it available.

(Appendix 01:97)

Harry makes the point that online dialogues and sharing can lead to horizontal learning, as users as contributors are often virtually represented by a pseudonym or an avatar devoid of cultural or socio-biological differentiating markers, such as age and gender. This cloaking of the contributor's verticality and difference, from Harry's perspective, enables YouTube to operate an egalitarian platform providing equality of opportunity, access and input. In ideal circumstances, YouTube is a virtual proscenium where contributors are judged on the quality of their epistemological and phronetic presentations devoid of preference and prejudice.

Int. H: I think the live broadcasting thing that some people are doing now is very good ...So to be able to use YouTube and similar platforms to watch someone deliver some learning in a different time zone and essentially be in a different classroom with however many other people and be able to ask a question live, like you would in a classroom now, and it be answered, just as we educators now find one question leading into an area of learning that you hadn't planned for and the whole thing is quite organic. I think to have the means for that to take place globally is very exciting.

NRG: It's synchronized but spatially separate.

Int. H: And the only thing that has synchronized you all is the event and the timing. It could be a 13-year-old budding musician and a 60-year-old practitioner and educator asking the same question at the same time or getting the same knowledge at the same time from whomsoever is delivering the learning.

(Appendix 01:97)

Harry's experiential learning methods appear to have both expanded and contracted. The new technology has in a sense exacted a price for its speed and ubiquity. Harry indicates in a moment of levity and self-awareness his voluntary abdication of cognitive responsibility. This quotation exemplifies the before and after of YouTube, both in terms of the differences, and the striking similarities.

Int. H: From my own experience that should it not be there for me now, should it not exist or it got taken away tomorrow, it would be devastating and life-changing to my immediate progression as a musician...to my journey developing myself as a creative artist and a practitioner and all those things...Or would it? [Laughing] Would I suddenly have to start thinking for myself... go back to the old ways?

(Appendix 01:98)

The medium is the message. The medium is velocity and omni-directional instantaneity is the ideal. The archaeology of power will reveal that those in power may not have been smarter but they were always faster (Virilio, 1977).

Theme	Appendix 01: Page	Key words
Value	: 101, :105, :118, :120–121	You can find what you need to know and come across lots of gems. (:105) How the whole thing fits together...snapshots, sort of freeze-frames as things are going. (:118) Now you do it on the move...go back and rewatch. (:120–121) He's an expert...it takes the heat off you.
Meme + (positive)	:102, :122–123	Assuming...it's coming from a source that you know. (:122–123) Sometimes it can

		be a good thing as you find something else.
Meme - (negative)	:102, :122, :117	...but it's at your own peril, isn't it? (:122) You can get sucked in...too much time watching and not enough...doing. (:117) Clicking, clicking...watching, watching.
Creativity	:104, 109	I just stumbled across a video...I can't wait to get back to. (:109) Like a piece of clay...moulding it into whatever your imagination can come up with.
Archive	:104, :107–108. :120–121	...an entire ribbon of musical possibilities and language. (:107–108) What to watch and more importantly what not to watch. (:120–121) He's from the country...done several takes...so if you have not got your 'A' game.
Sharing	:97, :114–115, :122–123	13-year-old budding musician and a 60-year-old music practitioner asking the same question. (:114–115) Drum clinics...these things are up on YouTube. (:122–123) Vast amounts of sharing...globally...I think is brilliant.

Table 10 - Harry's superordinate themes

8. Master Themes: Synthesis of Analysis

Value	Archive	Control
Content	Content	Time
Context	Context	Context / Space
Access	Access	Access / Trust
Sharing	Sharing	Sharing / Surveillance
Curiosity	Replication	Performativity
Creativity	Responsibility (professional)	Responsibility (Professional)
Entertainment	Entertainment	Safeguarding
Meme journeys + / -	Asynchronicity	Affordances + /-
Immediacy	Immediacy	Commodification
Environment (expanded)	Authenticity	Environment (educational)

Table 11 - Master Themes: Synthesized Recurrent nested themes

The final stage of the analysis is the tabularized synthesis of the emerging and superordinate themes generated through the mapping of each of the eight separate interpretative phenomenological analyses into a single synthesized graphic presentation (Table 11. Master themes). The most prevalent themes are nested in order of potency underneath the relevant overarching higher-order theoretical concept. The higher order concepts are placed in order of potency from left to right, for example, value, archive and control.

Each master thematic has been explored and subjected to the double hermeneutic circle where it is essential that the part is interpreted in relation the whole, that is, the entire coded transcript (Appendix 2), and the whole is interpreted in constant

reference and relation to the part. I am fully aware of the difficulties and importance of the analytic process and its capacity for distancing the researcher further and further away from the phenomenology of the participant, especially when condensing and synthesizing several respondents lived experiences into a triaged triumvirate of just three master themes. However, the depth of my immersion into the lived experiences of the respondents and the analytic method and rigour applied (Appendix 1, 2 and 3) should ensure that the in-depth, individual, bracketed, analyses have successfully underpinned and supported the, albeit subjective, veracity of the tabularized synthesised master themes, and sufficiently recognises the collaboration of both the 'lived' phenomenology of the respondent and the interpretative analysis of the researcher (Bloor, 1997).

The final caveat is that IPA is idiographic, as opposed to nomothetic, and as such any truth claims or generalizability are always tentative and the analysis is highly subjective.

9. Findings, Discussion and Implications for Professional Practice

This research was designed to explore how individual musicians, as music educators, are experiencing the use of the web-based digital video tool; YouTube. This qualitative, flexibly designed, bounded case study, under the umbrella of constructivism, explored one main question and two subquestions. The primary question 1. asked, 'How do professional music educators, through their lived experience, navigate YouTube, and assimilate the affordances of YouTube into their professional music praxes?' The simple, yet compellingly profound and complex, answer is that the virtual environment of YouTube is navigated and affordances therein assimilated in the same way that an individual perceptually navigates and locates affordances in the 'actual' physical environment.

Both environments, virtual and actual, and their respective ecologies require, and are realized by, the same perceptual system as an expanded perceptual reality. Given that evolution has gifted one perceptual system, following Deleuze and Guattari (1988), I found that the encompassing term 'expanded reality' recognized the new terrain and depth of field provided by virtuality and avoided the taxonomic and ontological

complexities of 'merged' or spilt realities. However, in order to present this research it has been necessary to differentiate throughout between 'actual' physical reality and 'virtual' digitally generated reality.

So, in order to understand and interpret the interviewees' experiences of navigation within the virtual environment of YouTube, a targeted literature review on how navigation and affordance leverage is achieved in the 'natural' environment was essential. The literature review on the human navigation of 'actual' reality and how it transfers to the virtual was necessarily expansive and spanned the hard science of behaviourism through to the post-modern philosophy of embodiment. The deductive and inductive literature generated by this research on the concepts of distraction, curiosity and creativity, revealed deeper relationships with the considerable historical research on the attention continuum, exploratory behaviours and information 'foraging' and their evolutionary drivers.

The seminal work of Berlyne (1954, 1960, 1966, 1978), extended by Litman (2003) and Litman and Spielberg (2008), on exploratory behaviour and curiosity, when strategically applied within the virtual environment of YouTube, generates a plausible explanation of how musicians as music educators navigate and locate within virtual environments and leverage affordance enactment. Berlyne also provides useful descriptors, explicated in detail in the discussion that follows, that I suggest might be adopted by educational professionals when referring to the types of practitioner and student navigational behaviours whilst using YouTube or, the perceptual or epistemic motivations either through, deprivation, aversion or interest, that pre-empt and instigate YouTube or allied technology use.

The respondent Freddie elucidated 'lack' or deprivation (Litman & Jimerson, 2004), as a spur or motivator for technology use within his classroom environment, when he pointed out 'I think that technology comes in where there is a lack of something...' (Appendix 01:67). Walker, in the preface to Berlyne's (1978) posthumous publication entitled 'Curiosity and learning', represents this 'lack' as 'cognitive uncertainty' and then goes on to provide a cogent synopsis of Berlyne's overall position, stating that, 'cognitive uncertainty leads to increased arousal and exploratory behaviour. When

that behaviour leads to resolution of the uncertainty, learning occurs and knowledge is gained.' Walker in Berlyne (1978:1).

All technological concepts and their realization will have been preceded by some form of initial distraction (attention shift), motivated exploratory behaviour or curiosity driven by some form of lack (deprivation), or aversion (Berlyne, 1954). Technology is, in a sense, an exteriorisation of the brain, a physical manifestation of curiosity, driven by a need, deprivation or aversion whereupon technological artefacts then act as “artificial memory systems” placed outside of human phylogeny and ontogeny (Tomlinson, 2015:74). As such, exploratory behaviour and curiosity are the procedural blueprints of technology, each providing the epistemic springboard to extend the reach of the other.

Below are suggestions for how Berlyne's terminology might be adapted, or directly adopted for the professional development purposes of educational practitioners who may require a nomenclature to academically substitute or supplement phrases such as 'surfing' or 'browsing'²⁹ (Ellis, 1989) with psychologically researched and scientifically differentiated descriptors.

Firstly, Perceptual curiosity (PC) 'the curiosity that leads to increased perception of stimuli' Berlyne (1954:180) and secondly, Epistemic curiosity (EC) 'the drive to know' or stabilize uncertainty by filling lacunae. Berlyne's terminology could remain as is and be applied by present day educationalists to the exploration of the technologically expanded reality that now exists post Berlyne's oeuvre. Or, Berlyne's work could be re-nomenclatured by collating or conflating active curiosity with active technology use.

Perceptual curiosity (PC) and epistemic curiosity (EP) could therefore be read, and be understood as, P-Techne and E-Techne respectively. The differentiation between the two, not mutually exclusive motivators as explicated by Berlyne, or with adjustments suggested by this thesis e.g. state and trait curiosity. This would for the first time begin to furnish educational professionals with an appropriate and well researched conceptually interlinked vocabulary to communicate the underpinning motivations of

²⁹ Ellis in Bates (2016:205) simply defines browsing as “semi-directed or semi-structured searching.”

both linear and non-linear YouTube navigation and could be applied to other allied social media technology use in the classroom.

However, Berlyne (1966) also provides further possible useful descriptors; diversive exploration and specific exploration, which may be directly appropriated by educational professionals and applied to virtual environments. Berlyne divides curious exploratory behaviour into a simple binary of diversive or specific. Specific curiosity is described as directed goal orientated searching (Berlyne, 1960). Diverse environment exploration, recontextualised for 21st century Virtuality, would centre on the research participants experiences of undirected browsing through boredom or a desire for some form of perceptual stimulus or excitement (arousal) via the YouTube platform. Diverse exploratory behaviour is particularly suited to the unfocused rhizomatic browsing experience, both positive; yielding a serendipitous 'surprise' or novel creative connection, and the negative, as intimated by almost all the participants as 'wasted time'. This was exemplified by Alfie when asked whether he often lost his focus whilst searching; for Berlyne and Deleuze, a 'loss of focus' would translate as a gradual collation of, and drift from, specific, 'aborescent' exploratory behaviour towards favouring a more diverse 'rhizomatic' approach (Deleuze & Guattari, 1988, 1993).

Int. A: Occasionally...but I try and avoid it...'cause in my mind there is a saying amongst my friends that once you start going deeper into the levels of YouTube, it just starts getting ridiculous...The stuff you come across...just going through related video to related video and you end up nowhere near where you started...

(Appendix 01:03)

Litman and Jimerson (2004) with direct regard to learning and the acquisition of new information, sub divided Berlyne's epistemic curiosity (1954, 1960) into I-Type (interest) and D-Type (deprivation)³⁰ epistemic curiosity and suggested that I-Type and

³⁰ Interest-Type Curiosity and Curiosity as a Feeling of Deprivation. "The separation of trait curiosity, specifically, epistemic trait curiosity, into the dimensions of interest-type (I-type) and deprivation-type (D-type), posed by Litman and colleagues (Litman 2010; Litman et al. 2010; Litman and Jimerson 2004), has emerged in the past decade as an important division of epistemic curiosity. Central to this model is that curiosity is pleasurable and serves as a reward.

D-Type be applied to differing learning goals (Elliot, 1999). I-Type, according to Litman (2008) revolves around the anticipatory pleasures of new discoveries. D-Type epistemic curiosity centres on eliminating undesirable states of not knowing and uncertainty reduction.

I-Type EC, or interest-driven curiosity purely for the intrinsic joy, is referred to as mastery- oriented learning and D-Type or deprivation curiosity is a need to know important specific information relevant to alleviating a performance-inhibiting need-like state i.e. performance-oriented learning (Litman, 2008). Litman (2005) posits that D-Type curiosity is a more powerful motivator than I-Type curiosity with regards to the seeking of knowledge. McGregor and Elliot (1999) give this finding some positive psychological valence with learning, as they suggest that the difference in the motivations for learning can predict the amount of persistence and effort individuals put into their search for new knowledge.

Both I-Type and D-Type epistemic curiosity descriptors, though not mutually exclusive, can also be readily co-opted by present-day education professionals simply as I-Type YouTube use or D-Type YouTube use: or, professionals and pupils alike can be referred to, during professional development sessions regarding social media 'netiquette', as predominantly I-Type users or D-Type users. The absorption of a lexicon based on the fundamentals of both human evolutionary endeavour and scientific research, I would suggest, enables the educational professional to avoid McLuhan's trap by employing a vocabulary that is both beyond and before the 'juicy piece of meat' of distracting content and context. The multidisciplinary approach to my primary research question, I believe, has generated sufficient unique insight and knowledge to invest music practitioners with a useable set of academically underpinned descriptors as enablers or tools, with which future researchers can further examine, investigate and understand the behavioural links and reciprocities between ourselves and our use and navigation of YouTube and the location and leveraging of the affordances therein.

Whether the reward comes from gaining information that individuals feel that they are lacking (i.e., D-type), or from gaining information that is enjoyable to the individual (i.e., I-type), distinguishes the two types." Grossnickle (2016:28).

The often-propaedeutic approach required by the interweaving of multiple of perspectives from greatly differing disciplines has enabled, I believe, rare and revelatory insights into the under-researched area of YouTube and its use by qualified and qualifying, teacher-trained musicians. The exploration and discussion of the findings from the subquestion 1.1 'Have professional music educators experienced a paradigmatic shift in how they as musicians, learn, teach and share?' exemplifies this multi-disciplinarity in action. The data gathered from the lived experiences of the all the respondents during analysis strongly suggests that a paradigm shift has indeed occurred in the way they, as musicians, positively learn and share via YouTube (Snelson, 2016; Whitaker, 2016).

However, the data also strongly suggest that no such paradigmatic shift has taken place in the way in which musicians teach within a formal education environment. This functional instability experienced by the respondents within their classroom environment appears to be caused in part by an apparent failure of educational institutions to recognize that technological change is not an additive. Postman (1998:4) states "A new medium does not add something; it changes everything". The crucible of interest for this crisis-mode manifestation of the Kuhnian cycle³¹ is the music classroom where viable paradigmatic models currently compete. Kuhn sees this type of event as an extended period of transition.

During the transition period there will be a large but never complete overlap between the problems that can be solved by the old and by the new paradigm. But there will also be a decisive difference in the modes of solution. When the transition is complete, the profession will have changed its view of the field, its methods, and its goals.

Kuhn (1962:85)

³¹ The 5 stage Kuhnian cycle 1. Normal science - a paradigm that works. 2. Model drift - phenomenon the model cannot explain. 3. Model crisis - model dysfunctional, field in despair. 4. Model Revolution -new viable models emerge. 5. Paradigm shift - a single new paradigm/normal science. (abridged from www.thwink.org/sustain/glossary/KuhnCycle.htm).

During this current period of pre-paradigmatic shift music practitioners as represented in this study, are devising ever more ingenious attempts to appropriate new technologies into a failing paradigm via existing practices. Twenty years have passed since Papert recounted his 'little parable': we need only substitute the word 'computers' with 'social media' or indeed just YouTube to rekindle its prescience.

Way back when I wrote *Mindstorms* I used a little parable that I find useful for guiding thinking. The parable is about a brilliant engineer around 1800 who invented the jet engine. Since he was dedicated to improving transportation, he took his invention to the people most involved with transportation, namely the makers of stagecoaches. He said, 'Look, I've got this thing. Find out how to use it.' So the makers of stagecoaches looked at it and they said, 'Well, let's tie it on to a stagecoach and see if it helps the horses.' So they tied the jet engine on the stagecoach and of course it shattered the stagecoach to pieces. So that wasn't any good. However, somebody got a brilliant idea, 'We'll make a tiny little jet engine. And we will put that on the stagecoach, and it won't shatter it to pieces. Besides, its price is affordable.' In fact, very careful statistics managed to show that this did have a minor effect on the performance of the horses. I hate to say it, but I think that this is a very accurate portrayal of what is being done with computers in schools.

Papert (1996:1)

According to Sheehy *et al.* (2014:159) "...technology is creating a convergence between the virtual and physical world." This synthesis and reciprocal 'interweaving' of realities, enabling what Sheehy *et al.* refer to as an augmented learning which takes place within, what this thesis has positioned as, an expanded reality.

Augmented learning uses electronic devices to extend learners' interaction with and perception of their current environment to include and bring to life different times, spaces, characters and possibilities.

Sheehy *et al.* (2014:159)

However, the immanent volatility of YouTube and its control within a safeguarded environment, and the indiscriminate perceptual immediacy it can afford, appeared to have an inhibitory effect on user creative action and improvisational pedagogic innovation. Safeguarding and professional responsibility for YouTube content selection was of paramount and consistent concern to all interviewees. O'Neill (2002) foreshadows Ball (2012a) and his concept of performativity and its corrosive effect on practitioners and their in class praxis,

...the new accountability culture aims at ever more perfect administrative control of institutional and professional life...new legislation, regulation and controls...require detailed conformity to procedures and protocols. Detailed record keeping and provision of information in specified formats and success in reaching targets.

O'Neill (2002:46)

Sheehy *et al.* (2014:40) concurs and contends that the experience of technologies may be constrained within a formal educational locus due to school practices, curriculum requirements, advertizing via social media platforms, such as YouTube and the covert “monitoring of learners activities for commercial interest. This situation may change if learners consistently move or connect beyond the school walls in their learning activities.”

This suggests that the respondents’ reports of encountering difficulties with systemic controls could possibly be linked to meaningful mediation with their students only taking place through a covert transgression of the extrinsically imposed analogue interface of prescribed school and government systems, policies and safeguarding practices. Thus it appears that face-to-face mediated learning and its mutually beneficial reciprocities, or Vygotskian ‘*obuchenie*’, is susceptible to, (if not transgressed), being prevented or steered through systemic monitoring, modulation, distortion and/or attenuation by the ideological underpinnings of a policed school system which acts as a traditional analogue bi-front interface.

Throughout the data there is an obvious yet larger tacit thread of practitioner-endured incompatibility and cognitive dissonance between the fixed locus and

controlled environment of school and the seemingly infinite rhizomatic possibilities afforded by the Internet (Deleuze & Guattari, 1993; Friedman, 2004). The use of YouTube to extend curriculum contact virtually via homework, as Colin demonstrated, (Appendix 01:42), or 'flipping' the classroom, along with institutional safeguarding responsibilities, appears to be in response to music's current axiological devaluation and low curriculum time allocation (OECD, 2016, 2014). Technologies, and YouTube in particular, appear to have been co-opted as coping mechanisms, rather than as pedagogic innovations, in both conscious and unconscious attempts on the part of the interviewed practitioners to ameliorate inhibitory controls and militate against the lack of dedicated curriculum time and space currently afforded to music as a subject.

Billy highlights YouTube's negative and positive Gibsonian affordance capability and refutes its oft-assumed panacea status, whilst tacitly alluding to Papert's (1996) attenuated jet engine metaphor and cinema analogy.

You see that's the thing of YouTube and technology, it offers positives and it offers negatives...it's the people and how they use it...and so far, the medium of YouTube...has been trying to replicate something...but nobody has ever thought of how to use YouTube to model teaching and learning for example...yes you can call it technology...but it is nothing new...they haven't invented a new methodology... everybody is missing the point we are actually using it to replicate something we used to do before...only in a different format.

(Appendix 01:23)

Papert in his 'Critique of Technocentrism' (1987, 1990) uses an apposite analogy supporting Billy's position regarding replication,

When the moving camera was invented around the turn of the century, the first thing people did with it was the same sort of thing you do with any new technological instrument: you try to do what you were doing before, and you try to do it better. So actors put the movie camera in front of a stage and performed a play. Reporters went out into the streets and turned on the cameras instead of taking notes with paper. That is very different from the

concept of the cinema, the movies, television, and the media as they have developed in our world. Cinema is so much more than putting a moving camera in front of a stage and acting out a play.

Papert (1987/90:6)

Most interviewees appear to have 'coped' by adopting a transgressive approach (Hooks, 2014) by using the affordances of YouTube to “give children a greater sense of empowerment, of being able to do more than they could do before” Papert (1990:6), despite systemically imposed controls All respondents in some form have used YouTube to virtually expand and extend music's presence in the life of the learner and also as a subject by utilizing YouTube to synthetically increase educative contact with the learner beyond a formal compulsory learning space, whilst simultaneously reinforcing the discipline's axiological status, namely music's ethical and aesthetic values.

The reactive use of YouTube and allied technologies by practitioners seems driven by music's spatio-temporal loss within the curriculum and music's lack of perceived value to curriculum designers for 11–14-year-old provision. This curriculum deprivation has revealed reciprocal affordances that appear, given the respondents' experiences, to be pushing the locus of educational mediation, including exploratory Net-based learning behaviours and creative actions, between teacher and learner and its outcomes, increasingly beyond the controls and confines of politically controlled educational environments and their concomitant ontological positions.

This study's research findings suggest that it is precisely because, musicians, as music educators, have experienced a positive paradigm shift in their own musical learning and reaped the benefits from enhanced music sharing capabilities, all catalyzed through the capabilities afforded by YouTube, that they all reported that access to the YouTube archive as both creators and consumers was indeed invaluable. No respondents could imagine a world without YouTube or something similar. According to Kuhn (1962) a true paradigm shift is irreversible.

However, in answer to the final subquestion 1.2, ‘How valuable, in the experience of the participants, is YouTube in directly influencing, or informing their own musicianship and their professional practice?’ YouTube and its control appears to be demonstrating a disruptive effect on music practice as music educators struggle to legitimately assimilate its use into their practice. This research suggests that covert practitioner transgression of the systemic controls imposed on YouTube, when used within tightly regulated school environments, will persist until the ‘crisis mode’ of the Kuhnian cycle is replaced with a functioning model, thus completing the paradigm shift.

10. Conclusion

My six-year Ed.D journey has allowed for a considerable period of reading and analytic incubation time. During my doctoral studies my multidisciplinary rationale and research focus, as presented in this thesis, was continually rehearsed and refined and is now submitted within a defensible thesis as the final component for the award of a professional doctorate in education. The rationale itself was propelled into reality by my experiences as a professional music educator in both the state and private sectors over a 20-year period.

The *raison d’être* of this exploratory research was to contribute to the academic field of music education with specific new knowledge regarding the lived experiences of in-class music teachers within the 11–16-years sector and to subject to analysis their individual professional and personal perspectives on YouTube’s value and utility in facilitating musical learning.

The significant findings in relation to the literature or, quite simply, what is known now that was not known, is that this research strongly suggests that YouTube is considered a new paradigmatic force in how musicians can individually access and successfully leverage musical learning. The interpretative phenomenological analysis of the respondents’ experiences, and their synthesis produced three master themes. The first two: value and archive, recognized and celebrated YouTube as an invaluable resource for musicians and music educators and suggested an irreversible paradigm shift had

taken place. The third master theme, 'control' was more problematic, especially with regard to the safe and effective assimilation of YouTube use into the classroom.

In homage to Seymour Papert and his apposite parables I would like to offer a short personal allegorical perspective on the issue of technology control within a classroom environment raised during this research.

Back in the early 1960s my classroom was part of an old Victorian school. I was always fascinated by the inordinate height of the windows! The windows let in light but no one could see in and no one could see out! The teacher with a long pole with an intricate brass hook had absolute control over the opening and closing of windows and the attached blinds. The walls were bereft of distractions; the desks were all uniformly pointing towards the teacher who had our unrivalled attention.

Conceptually, it seems the 1850 Victorian school model is perfectly designed to prevent student access to any competing realities that may intrude from outside the classroom. Part of the problematic experienced by the respondents is that the basics of the Victorian model are still in-position in most present-day schools, except that YouTube is disruptive and has now become a virtual window, a bi-front interface into a multitude of competing realities that are intruding from the outside world. Access to this expanded reality is now being increasingly monitored, controlled or filtered by educational institutions. In Victorian terms this would involve returning some controlling 'pole' to the teacher to 'ventilate' YouTube use, and the pulling down of a translucent 'blind' by the system as a YouTube filter reminiscent of Plato's cave. However, this apparent stymieing of access and allied assimilation problems that this research indicates exist 'on the ground' is also suggesting a 'requisite' response in the increase in transgressive teacher behavior when using YouTube.

This research also presented secondary findings that were unexpected, and came as a direct result of the literature being applied to the transcripts during the hand coded analysis (Appendix 3) of the *verbatim* transcripts. This research found that early-twentieth century, often over looked, academic works on exploratory behaviours and information-seeking could be reappraised. I suggested nomenclature variants of

Berlyne's (1960, 1954) perceptual, epistemic and specific and diversive exploratory behaviours to academically indicate specific types of YouTube navigation.

Having covered the main and secondary findings, I would like to rationalize and reinforce the links and connectivities between the conceptual models presented in the literature review. The initial, embryonic concept that triggered and targeted the literature to the research question was, distraction. As an education professional the word 'distraction' has always been considered inimical to focus, and as such, an inhibitory negative force in relation to learning. However, it soon became clear through the literature, that distraction and its semantic variants, was *a priori* with regard to change, discovery and creative action.

I was now disruptively, in an academic sense, considering distraction as a positive, and began to actively research its role in curiosity, creativity, learning and the location of affordances within a digital environment. Affordance theory, material engagement theory, embodiment theory and actor network theory all shared multiple similarities that could be applied to the research questions. However, I was intrigued to find that my interest in affordance theory and MET was also shared by Floridi (2014) whose work I was using to rehearse the concept of the different orders of technology and the interface between humans and technology.

Distraction, as visual dissonance, again remained the conceptual thread that linked the Gestaltian switch pictures and the paradigmatic shift that occurs when an image switches to the hitherto-hidden Gestalt or, in the terms of this research, hidden affordance. Kuhn's (1962) paradigm shift is further considered in relation to creative action and the subsequent leveraging of affordances. Interestingly, curiosity and exploration, from a behavioral psychology perspective, also yielded fundamental homogeneities and connectivities between the inherent philosophical reciprocities of embodiment and material engagement theory. The homeostatic response in biology and the law of requisite variety within the discipline of cybernetics both seemed to resonate with the Pontian philosophy of embodiment and embodied reciprocity between the human and the environment as expounded in material engagement theory. The literature, though diverse was targeted and interconnected. This multi-

disciplinary approach was designed to apply prismatic pressure and intense focus on the research questions.

The research has been somewhat of a moving target as the field of electronic social media and digital education is advancing at a considerable pace. However, I did include a selection of the exponentially increasing 'paperback writers' and considered their in-flight consideration of the phenomenon YouTube.

Having, I hope successfully defended my literature review against comparisons with the 'sorcerer's apprentice model', I wish to firstly acknowledge the one researcher, who I discovered relatively late in this process, whose research interests and evolutionary academic underpinnings are similar to my own, namely Marcia Bates (1989, 2016), whom specializes in 'information studies' and whose influential paper entitled 'The design of browsing and berry-picking techniques for on-line searching' describes the foraging style of non-linear accessing of information as 'berry-picking'.

Given my experiences with a multipart primary question and two multipart secondary questions during this research in my post-doctoral research I intend to keep to one concise primary question with perhaps one subsidiary question in future research where possible. I found the methodology matched to the research and found the analysis both rewarding and a creative, yet a rigorous and time-consuming, experience. Again, given that this research is primarily for accreditation purposes and, as such, has a limited word count I would probably have been able to produce similar results with a more manageable number of six respondents.

I have found that the process of gaining a professional doctorate in education has simultaneously prepared me for my exit from the classroom and also critically equipped my research skills to step up to another level of educational interaction within the academy. Finally, I am very much looking forward to the next stage in my educational career as a researcher and academic. I also look forward to publically sharing my findings and discussing further their implications with other practitioners in the field of music education.

11. Further Research

As a self-taught musician, and following on from the findings of this research I intend to prepare a proposal to investigate the increasing phenomenon of musicians who attest to having learned to play a musical instrument through to conservatoire level or equivalent, entirely through utilizing the affordances of the web-based video tool YouTube, learning their instrument and allied music skills without access to the physical presence of an instrumental teacher at any stage in the skill acquisition and learning process. This is a much under-researched area and any findings would have significant impact on the field of music education.

Beyond my academic ambitions as a professional musician and music educator, briefly outlined above, I believe this multi-perspective research has exposed numerous touchstones on which the wider academy may wish to build. My thesis, despite its male gender bias, posits that our perceptual reality is species bound, and as such, the digitally 'expanded reality' is explored, navigated and affordances leveraged by each individual actor wherever that individual may fall, or identify as, on the gender spectrum. However, much valuable data could be accrued by future research that successfully replicates the research design utilized in this thesis, again, with purposive participants from any niche sector of the human continuum to faithfully explicate their particular practices and further interpret their 'lived experience' and further support the findings, of what this thesis posits as, a digitally 'expanded reality'.

Another area of academic interest that I feel warrants attention, as revealed during the participant analysis (Chapter 7), is the impact of disruptive technologies, such as YouTube, within formal, compulsory education settings, such as schools and further education institutions. Transgressive behaviour, as acknowledged by almost all the research participants, appears to be rising due to in part to increased performativity targets, increased surveillance, limited curriculum allocation and higher student and parent expectations. However, during times of what this thesis identifies as 'model conflict', where two competing educational paradigms co-exist, the dissonance and disruption caused may also afford opportunities for institutional transgression. Further research into Institutional transgressive behaviours could be designed to investigate whether errant institutional behaviours were camouflaged by the 'model conflict

noise' and enabled, in part, by the conflicting digital paradigm and its available digital connectivity. Thus, researchers could interrogate the evidence regarding the hypothesis that the combination of 'model conflict', camouflage and increased connectivity could be significant contributory factors in further enabling non-transparent transgressive, expedient or cynically compliant institutional behaviours.

Transgressive student behaviour is to be expected, however, parent or guardian transgressive 'cut and paste' behaviours on behalf of their charges may be increasing due to the ubiquity of non-generation loss digital replication via the 'Google' omniopticon. Further research into what is driving transgression within the formal education sectors may well have far reaching implications for the teaching profession, practices and indeed its locus.

Finally, with regard to enabling the wider social learning of music skills I would like to encourage the academy to consolidate YouTube's position as both a liminal meta-platform and meta-tool by pursuing educational research into the pedagogic possibilities of the 'haptic' Internet. Successful future research into the 'haptic' Internet will hopefully increase the quality and degree of virtual sensory perception thereby affording a comprehensively sensorial and fully differentiated musical learning experience to a much wider digitally connected learner catchment via the hitherto absent sense of touch.

The digital addition of user-designed haptic aesthetics as a controlled, yet reciprocal, nuanced sense of touch, in concert with the increasing quality of audiovisual immersion should, future research may find, manifest a much increased ecology of resources and a plethora of richly expanded technological learning environments within which learning can be sensitively mediated and learners, both individually and collectively, can feel safely situated, and fully embodied within their chosen musical learning experience.

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Appendix 1 – Clean Synchronized Transcript

Page 01 synchronized to thesis and colour coded hand written Analysis

NRG: 16th of the December 2015...Interview taking place in an inner city school (ICS)...and we are interviewing interviewee A...(humorous banter)

Int. A: (Interviewee confirms name.)

NRG: Right...O.K. We've got that.

Int. A: (interviewee confirms contact email etc.)

NRG: OK. What is your main instrument?

Int. A: Piano is probably my main instrument...and ukulele is probably right up there as well.

NRG: Yes! I've just started playing that too...

Int. A: They are amazing.

NRG: I had a little paradigm shift in my head when I realized that the bottom four strings of the guitar are the same really...

Int. A: Yes...yes.

NRG: Down a fourth or something.

Int. A: Yeah...yeah.

NRG: And then I was away...what a laugh! Erm...bought 28 for my school £13.50 each made in China...they are real instrument and they really play in tune...All right. So...we've got piano and ukulele...And at what age did you begin learning?

Int. A: I started piano when I was 11 years of age...

NRG: And what it by ear or...

Int. A: I had taken lessons...Well there was a piano teacher in my area that my parents knew about...I'd been meaning to do it for a while and then eventually I started secondary school and then the weekend after I started taking piano lessons...

NRG: Classical, contemporary, Jazz?

Int. A: Classical...Yeah...I just went down the whole classical route...

NRG: Great.. Int. A: Which was All right...I just wish I had have done a bit more kind of jazz to build up my skills and that...

02

NRG: Brilliant...so you would have been reading and doing all that kind of stuff...

Int. A: Er...Yeah...My sight-reading was pretty abysmal still need to practice...

NRG: Yes...Me too! It has always been a pain...and at what age are you now?

Int. A: I am 30...

NRG: Before 2005...what were you doing? Were you a teacher then?

Int. A: No...2004 I started my degree...

NRG: OK. So you were a student then?

Int. A: Yeah...

NRG: All right great...did you go straight into teaching after you had passed your degree (qualified)?

Int. A: No. Straight after that I did a Masters degree...Then I kind-a worked and spent a couple of years working...so it wasn't until 2009 that I took my PGCE and in 2010 I started working here...

NRG: So YouTube had been on the go 5 years then when you hit the ground?

Int. A: Yeah.

NRG: Have you adjusted your privacy settings on YouTube? Have you been in there and adjusted the web 3.0 that provides the selections of things you might like in the right hand column of the screen?

Int. A: Er! No...I haven't...

NRG: So You haven't been in?

Int. A: No...And I don't mind that...

NRG: Good...Do you have an Ad-block on?

Int. A: Yeah...I did used to. I used to use it to use it for everything then I noticed that certain websites seemed to slow down...when you use adblock ...and YouTube was one of them...I found that I was using Safari browser with adblock on it just wouldn't load...so I opened up chrome and it was instantaneous...so I turned it off for a few websites.

03

NRG: (Interviewer concurs)...So. Uploading, I know that you guys at ICS upload all sorts of things, including homework...But do you personally upload stuff up on to YouTube?

Int. A: Yes! Yes...I have a couple of channels going out there...

NRG: And of course I assume a bit of lurking goes on...Everybody lurks...98 per cent or more watch YouTube and never put anything up... Do you teach instruments?

Int. A: Yeah...classroom music...

NRG: Do you ever go *ad hoc and off plan* say you've got a class and someone says they have seen something on T.V. last night...and YouTube is already up...do you ever go 'off piste'?

Int. A: Yeah...Yeah. Particularly when they are choosing a particular song to play. I'll probably vet it using YouTube, checking the lyrics and all that...

NRG: Yeah. The clean version...

Int. A: Yeah...Exactly in terms of using the lyric video's...In terms of the action video's you don't really know what you're going to get really...

NRG: Do you ever when you're teaching get your attention distracted by the right hand side recommended menu? And then see something on the right hand side and switch the version you were going to use for the distracting thumbnail?

Int. A: Not in the classroom...I wouldn't do that...

NRG: Or at home when you're prepping?

Int. A: Yeah! When I'm at home prepping.

NRG: Do you ever find yourself following a meme you click on one thing and then one thing leads to another and before you know it you are on the yellow brick road. Sometimes brilliant and sometimes not so...Do you ever do that?

Int. A: Occasionally...but I try and avoid it...'cause in my mind there is a saying amongst my friends that once you start going deeper into the levels of YouTube it just starts getting ridiculous...The stuff you come across...just going through related video to related video and you end up nowhere near where you started...

NRG: Especially when you look at a related video thumbnail and then you play it...and that action in itself shifts the content on the right hand column again...So it's like some kind of artificial intelligence which is what it is ...as it selects things on the basis of what you're currently viewing and shifting it around...The algorithm which is a mystery to most people

04

is a closely guarded secret and there is very little information on it...Although a YouTube representative does speak of this on YouTube. The YouTube representative said it is mainly to stop gaming...and of course they are vending...there is a financial imperative behind it...Control definitely...hopefully us human can circumnavigate that...at the minute anyway...Erm...

Int. A: It could be also due to advertisement revenue. Companies are paying for adverts and they would not pay if they could work out the algorithm.

NRG: Yeah...comments. Obviously not while you are in the classroom, but do you read the comments or post answers?

Int. A: Yeah. I'll read through comments depending what it is. It could be that I have a question about something that I have seen...While I'm prepping and I think well maybe someone might have answered that question...so I'll look below and see if it's got an answer...

NRG: All right.

Int. A: I tend not to leave a comment unless it's to say, great video thanks for that. I tend not to ask questions as I'm usually looking for something a little more immediate. Rather than rely on the YouTube community...

NRG: Yes, as it may be a while before anything comes back. The right hand thumbnails image is very well crafted to elicit hits. The right image increases hits considerably irrespective of actual content.

Int. A: As a creator I appreciate how important this is.

NRG: It is a huge science and as you are a YouTube ICT specialist?

Int. A: Yes. I do my stuff outside (school) that is all related to YouTube and it is quite important for me.

(End of warm up...Banter whilst selecting next question...30 seconds)

NRG: What words of wisdom would you offer a beginning music teacher regarding the use of technology such as YouTube within a classroom environment? And has your perspective changed markedly since you studied and qualified and started teaching yourself?

Int. A: As a creator of content or as someone who is going to be using it in a school?

NRG: ...As someone who is going to be using it in a school. If they are going to have the digital archive at their fingertips how do you think they should use it?

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Int. A: I guess from a research and preparation perspective it is very important to have a YouTube account...and I think it is very good to make full use of playlists...and save your videos to playlists ...cause quite often I'll come across a video whilst searching for something else and realize that it can be used in the future...so make sure you save

NRG: Because sometimes they can get taken down.

Int. A: Yeah! That's the risk. I try not to rip video's from YouTube, although I know it is possible, but I try not to, I trust the content creator that they are going to keep it up there...As a content creator myself I realize that people rely on advertising revenue and that it costs them money or time at the very least to make that content and I think that they should be paid for the work that they put up there.

NRG: So, your sites, you have punters coming in and hits...are you getting revenue from yours?

Int. A: Yes. I do get money it goes up every month. I have only been running one of my channels for a year...It doesn't bring in much just a little pocket money...about £55 a month I bring in from YouTube at the moment and it goes up every month and I tie that in with affiliate links with Amazon...and that brings in as much on top of that

NRG: I take it, it is music based?

Int. A: It's not it's a general technology channel that I run...general reviews and tutorials I'm posting things that I enjoy making...

NRG: So how to fix things etc. and do you use video?

Int. A: Yes. I use video. Most product reviews I reviewed the iphone. It is difficult to compete because there are a lot of technology channels out there but I have my niche. I have about 600 followers, and about 1500 views per day and I have approximately 50 videos up at the moment. Large U.S. audience followed by the U.K. and then by Canada Most of my Video views come from the right hand side bar...because I can't compete with the big guns...with a review I would probably be on page 270! So I have pick up my views as a related search in the right hand side bar! That is where about 50 per cent of my views come from.

NRG: So where are you in that algorithm...presumably you are working on your right hand side thumbnail...or I you relying on YouTube to do that?

Int. A: No. I take a picture of the item that picture probably doesn't appear in the video, and I present it like that

(School P.A. announcement)

NRG: So you're reliant on the in-built distractive qualities of that right hand column for your revenue? Because: As an educator I'm looking at distraction not as a negative, but as the beginning of curiosity and the creative process. When you're focusing on your i-phone or fixing a certain bar of music you are focused. Not focus, the way I'm thinking, is the antithesis of creativity, because when you are focused no new stimuli are coming in...you are not there to create anything new...you are there to nail this one thing...but the big oscillation is where you are looking at the main YouTube panel and then there is that saccadic to the right...There has to be some psychology behind the future possibilities being on the right of the screen and not on the left. We read from right to left etc. The eye being distracted to the right hand column is the beginning of something changing...

Int. A: Yes...

NRG: Creating a new a new possibility...which is you in this case...

Int. A: Yes...

NRG: This happens when the student gets distracted and you get two disparate events and they put them together and get a third...and that third thing is what becomes the hit on your site ...it's this new thing... I don't believe this creative aspect is purposely built in to YouTube although the distraction is...It's that distractive quality that is interesting me as the beginning of the creative process and what will be the creation of new knowledge and new experiences...these are the buzzwords in education at the moment. None is interested in humans replicating things as machines are now doing it far better than us. What they need is new knowledge.

Int. A: Mmm...

NRG: And the only way you are going to get that is, initially, for your attention to be shifted...or you could call it distraction...and everybody knows that in your school report when it says easily distracted it means you are not very good...but in this day and age may be not? This in essence is what this whole thesis is about. I have tried getting into YouTube but for whatever reason they will not let you in...especially with anything that might be published...but what is fascinating is that you live in that right hand bar and if you continue exponentially you may end up flipping over into the main primary search panel...

Int. A: And occasionally I end up in the main search from having got views from the right hand side bar...and I'm not sure how I get it in how the search algorithm works...but in my personal experience the relationship between views and likes of my video's...i.e. the better the ratio between views and likes the higher in the search I become. So I've got a video about a pair of headphones...other YouTubers made videos about the same pair of headphones...they got far more views but my ratio of likes is really

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high...About 10,000 views and 200 likes which is pretty good and now my video is about third on the list for that particular brand...But that only happened because it was initially only a related video. So some of my video's move on from that and become part of the main search that users then find...and that's how it's kind of worked.

NRG: So if it came that synoptic way round where people kept looking for things to do with technology and they kept looking at you then eventually they would come straight to you.

Int. A: Yes. Exactly. Ideally that's how my channels grow.

NRG: That's fascinating stuff...so, what is your next move are you going to open up another channel...

Int. A: No, I've got a couple of bits going but the technology one is by far the more successful one...It's just about generating more interesting content and trying to grow that channel...it's difficult balancing that project with the job...

NRG: Were you tempted to do a Gangnam style assault...paying people to physically make hits on sites? YouTube became aware of this and altered their algorithm to reflect the time spent on the site over and above momentary hits however-so produced...but it may be the likes or the comment content YouTube guard the usage of the data generated via the metrics very closely...

Int. A: Given when YouTube contacted me regarding my analytics there was a very big push on watch time and then views.

NRG: it is almost smoke and mirrors as the main viewing pane does not show watch time but still shows hits...

Int. A: Yes watch time the invisible metric the viewer never sees...

NRG: Watch time is really important to Google as is whether the place advert is watched in it's entirety...they are certainly going to know that...It is like an evolutionary prey-predator type of thing... The development of big data metrics is like an oscillating loop within a closed circuit system. Douglas Hofstadter's book 'I am a strange loop' looks into this from a technical and a philosophical viewpoint...Wow...that was a journey!

Int. A: Yeah...

NRG: Can you remember when you first ever used YouTube? And was it through curiosity or necessity?

Int. A: Despite being a tech fanatic I cannot say that I was one the earliest users of YouTube...What I suppose is interesting from my perspective is that

I'd come across a YouTube video probably through Google search, and in those days it would not be displayed as it is now...

NRG: Yes. Just the http...

Int. A: And that is how I was basically introduced to it. I never went looking and I never treated YouTube as a search engine...Now the content is obviously so incredible and what is out there...So if I'm looking for a tutorial or how to have something explained to me then that becomes the search engine.

NRG: And given your experience and crystallized knowledge you can use that to filter out the content that is of no use and direct yourself to what you need...

Int. A: from a creator's point of view you get quite good at knowing what to search for...I'm good at knowing how to phrase what you type into the search box...you don't phrase as a sentence ...you pick out the key words.

NRG: It's like a Boolean search...

Int. A: Yes. You don't say 'how do I fix my iPhone screen' you say 'iPhone-screen fix'.

NRG: And then the serious stuff comes up!

Int. A: Yeah. Exactly.

NRG: Have you ever used it for your own personal musicianship? Or teaching practice?

Int. A: Yes. I have. In terms of the classroom I will always use YouTube every lesson without fail...for when the students come in or have a video performance going on the screen...erm...I'll use it as a way of playing audio to students...the students then use it for looking up lyrics...it's quite interesting watching students look up lyrics because they don't look in Google...they look in YouTube for lyric video...and that's become part of what they do, and I do wonder about it ...as what I noticed about how students use the Internet over the past couple of years...Some of them struggle to enter in a url and, they just don't know how to do it...they are just not used to that way of doing it, they use apps etc. They are so 'appcentric' and have an app for YouTube, so they use YouTube as a search engine. So coming back to the classroom both I and my students will use YouTube in many different ways throughout...

NRG: So to solve technical, practical or musical problems for yourself will you pop into have a look round?

Int. A: I will pop in and see what's there for me...I mean I only started playing the ukulele less than a year ago and there's tons of great content...and there is some really good channels as well, and there's another thing I've noticed

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actually is that the students become familiar with the channels and the people running it...So they look for a particular person...rather than a general search...this particular person does a great job, we're looking for that.

NRG: So, personality not just content and context...

Int. A: Yes. Somebody they can trust

NRG: And someone who has a lot of likes...that's interesting that's building a [virtual] persona via your channel

Int. A: And that helps the students.

NRG: Was control of broadband or its speed ever an issue?

Int. A: Without doubt in the early days that was always a problem...but now here it is great we have very fast broadband and it's great. I do remember that in one of my PGCE placements that YouTube was banned...That's the Head Teacher! So what do you do then? You have to rip all the videos find another web site. The students were quite good at finding alternatives to YouTube but nowhere as effective near getting them what they wanted. Especially in the early years there was a fear of what YouTube would do in schools I personally think...I think it's got better...

NRG: There seems to be a big difference between yourself and the professional uploaders who are going into YouTube and appropriating the space and...commodifying it massively and making huge profits from it and there is still the guy in the bedroom putting up stairway to heaven, the two are alongside but they are streets apart now...The slick video style that is going up there that is obviously professionally orchestrated with very high production values for example American music tutorials with HD quality AV and split screens multi camera angles and high quality overdubbing...so there is a difference between how it started out and what it is becoming...hopefully it isn't completely professionalized and commodified...if it is it will be a different beast...

Int. A: I guess... I think that the smaller YouTubers and the people that make the content will compete though...I've got no doubt about that. All my videos are in 4K and I film everything on an i-phone...I think as the mobile technology advances and people can make stuff on their phone and the apps are very cheap, if not free, it actually empowers people to compete on a level where it's not quite the clean crisp image, but it allows people to at least compete with quality content that looks really good...

NRG: It's Marshall McLuhan, the 'medium is the message' like you're in this machine this matrix, everybody is in it and the content...

Int. A: ...is endless...

NRG: Yes. Endless. I think the main thing there is that he struck on something...and everybody decided to get on board and they are now inside this matrix. And I think that's what YouTube and Google want...everybody to get on board and in there and doing...

Int. A: In some respects that happened with music, music became a lot cheaper to record and now the Internet is awash with good and bad bands...good and bad singers and musicians. And I think that is what has happen with YouTube people have been empowered to create content as a result of the mobile revolution and app developers have empowered people to have a go...

NRG: Going back before the phonogram and acrylics music was always attached to an image...You had to be near the person or people playing and that is how it had been since the beginning of time...Maybe we had about 120 or 130 years where you could have music asynchronous from an image...and that was unusual and now we have gone back to music almost always synchronized with an image albeit 2 dimensional. Although with 3D and Hologram technology etc. we will come close to emulating the live aesthetic of a musical performance. It's very interesting that kids like to see how you are playing that thing where your fingers are going. And those synaesthetic keyboard tutorials with strooped colours falling on the keys...

Int. A: Yes. That's very popular.

NRG: And the left hand is in blue and the right hand is in green and it's just another method of showing two-dimensional notation...but it works...

Int. A: It's exactly like the old piano rolls on the Pianolas...

NRG: Absolutely...Punch the holes in and down they come, it's just another way round it...Similar to 'Guitar Hero' etc.

Int. A: It makes music more accessible and it's working.

NRG: What are the main weaknesses to learning an instrument solely through the use of YouTube? What do you think the main drawbacks are?

Int. A: There is a whole other side to just learning songs and I think you miss out on that. You miss out on the understanding of harmony and basic music theory and I think that that's quite important because having those skills, understanding keys, understanding harmony that allows you to learn quicker, you get to a stage where you can work out a piece of music just by ear because you know the key, which chords are in the key and then you begin to actually fiddle around on the guitar or on the piano and you can do things quickly. You can become much better at understanding the music not just in a literal sense in how to play it...so I think that, that's a potential weakness. There is probably less videos on understanding harmony...

NRG: Well, there are quite a few out there...

Int. A: But in comparison to the amount of piano rolls and instrumental tutorials there is not many...

NRG: The instrumental tutorial it is just a see me, if you can copy me, then, you can do it...

Int. A: It is easy to see how that instant gratification of being able to play what you want when you want. Instead of, before you learn this song we have to learn these chords, this scale and play this part of the melody...instead you just go. It's the Netflix culture this is what I want to watch, this is what I want to learn.

NRG: Prior to 2005 trying to deliver that [instant gratification] with the tiny piece of the curriculum pie in music, 50 minutes a week and that is more or less the same across Europe, is impossible. Yet music is judged by the same criterion as Maths, English and Science and assessed similarly wrongly in my opinion. (...abridged 30sec transition to next question)

NRG: What do you think the future holds for musicians and music educators in what seems to be an exponentially networked world?

Int. A: Wow! The more immediate thing that will happen I guess, and I guess it doesn't just relate to music but to anything that involves consumption, we will move from one device to the other seamlessly, you can begin sitting on the train on the way from school where you are watching something that's going to teach you and then...[interruption] yes, you are sitting on the tube and you have to get off, so you stop, you pause it and you switch on your smart T.V. and it's just there you continue where you left off, you go off make a cup of tea, stick it on your i-pad and take it from there, so I think from that perspective there is going to be an increase in convenience in consuming educational content and that makes it easier...Where does it go?...Well, will we end up without jobs will everything be done over the internet?...will I be a Skype teacher...I don't know.

NRG: Where does the creative bit come in from us? I suppose it is us against the A.I. or the burgeoning A.I. According to the Institute A.I. will not be fully realized in my lifetime or probably yours...But the human creative ability to make associations make a third that is interesting and educative and new knowledge. How is this ability influenced by technology...are we going to end up...is the tail going to wag the dog? Are we all going to end up in McLuhan's medium and not be able to stand outside of it to change it?

Int. A: No. I don't think so. I think that what's happened in the last ten years is that the technology has increased and gotten so sophisticated in such a short space of time that we haven't yet figured out how it fits into our lives...in our personal lives or in the classroom or as educators and I still think we are figuring out where it lies and I think eventually we will make that distinction about what needs to be done digitally and what needs to be done in person

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and I think there is a lot of fear that there will be Skype lesson and all that stuff...and actually there is a lot of benefits that you miss out on from actual interaction face to face...and it's so difficult to say where it will go from here...But I'm just confident that our generation will just get confident in when to use this technology.

NRG: Do you think If we over rely on technology and it collapses for whatever reason...

Int. A: Well (Ha, ha) we basically go back to the blackboard... I believe that we will just get better at using technology...where and when. Technological Etiquette will just get better...

NRG: Do you think that as it is made by humans it will just mirror us? In a sense...a virtual version of the analogue...embodying almost the same spirit as we've got? It can only be...at the moment; fingers crossed...what we put in...

Int. A: I don't think it will mimic us...or mirror us I'm not too sure how useful that would be...I'm not sure if that's the route that we would end up going down...

NRG: The idea is rather like evolution...it does not mirror perfectly...there is a kick in it and it refracts and you get led to a third space...and if it does that...But if it is a perfect replication then you will get nothing back.

Int. A: Yeah...

NRG: Because of this I am thinking that you are going to find things that you didn't expect...and that might make the thing something that nobody can predict...we are putting in the curve ball...until it starts putting in the curve ball (Ha, ha)

Int. A: (laugh)

NRG: Then, then in about 120 years when it starts putting in the curve ball and it starts looking after its interests... then we are in trouble! We are straying a little into the science fiction world here...but it's not far away.

Int. A: Yeah.

NRG: Good. We are almost there...Are there any illuminations, curiosities or insights you would like to share...just anything connected with technology that you think might be of use?

Int. A: So your focus is on the Sci-part?

NRG: The Focus is The YouTube effect: A paradigm shift in how musician learn, teach and share. I think most people agree that due to technology there has been a Kuhnian shift in how everything is done and will be done in the future...But I'm on that side bar I'm getting interested in the distractive

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qualities of YouTube and that as a precursor to creative thought and creative happening and making something new. It might be inadvertent and they are distracting you for other purposes ...I'm thinking that there may be a positive catalyst that comes out of it that produces a third unexpected event...which is interesting and useful!

Int. A: I wonder about its longevity...a mobile phone held in portrait doesn't show that side bar...and that's ultimately where more and more consumption is happening...a lot of my stuff gets watched on desktop...although mobile is creeping up. And I do wonder you hold a phone in portrait mode all your suggested videos are below...so you get your video you get your statistics...

NRG: So it's really important that...

Int. A: And looking at comment has been relegated a little on mobile

NRG: Yes. You see this is thing...This is why...Because it is run by humans and because they have an agenda...They are favouring thing that suit their business priorities...`Their idea of where it should go. This is the interesting point I am looking at what you could call an affordance...It's an affordance that you might see or you might not see ...some people might see it as an affordance and some people look at the right hand sidebar and think...I never look there...I don't even know what they are...It means nothing to them...Other people...I see...that ...with this...Oh I see...I could put these two things together...in the classroom and they can see...The affordances are not available to everybody...depending on their experience their fluid intelligence and their ability to connect these things together...so the human brings an awful lot into this place...But this space is human controlled and driven like what you're saying ...If they know that YouTube is being viewed a lot in portrait mode on mobiles they will have to relegate certain things from the screen...It is like when Foucault says if you out any hidden power structures they immediately respond by burying the power structure deeper next time so you don't find them. They don't go away. Similarly if you flag up to YouTube...This is a fantastic creative device for subverting the very thing that you are trying to sell. And we're using it for another purpose...Oh! No you're not! Algorithm change...

Int. A Yes. Exactly...

NRG: Formulation change...Screen change? Perception change...conceptual change in the delivery of it...But because everybody is now hooked ...in the sense that we need YouTube to...function...they have a very powerful position...from a philosophical standpoint it's interesting to look at the power it wields and Google as a company...what can't they do? What can't they do is on a small page ...what can they do no one can write down!

Int. A: Yes. They are moving way beyond just search... The parent company became alphabet and encompassed NEST and everything else they are doing...You do wonder at that point where they are moving on to...It is interesting to see what they are doing...Are they looking to become the next

Apple...They are doing work on self driving cars...Apple is doing work on self driving cars...I can see parallels between them...two global powers...

NRG: Well they need each other. Like Coca-Cola and Pepsi...If Pepsi didn't exist then they would have to invent them! You need that positive and negative it is throughout life...Technology has possibilities for good...and also not so good...it all depends on the political state of the planet and where we are going. But from my perspective if I highlight the positive distractive qualities of YouTube as it stands at the moment in landscape or on a P.C. ...Is that a wise move? If people do...and it appears, speaking to you guys today that people do, go on that meme journey and it does often surprise them and lead them somewhere new and the see things differently...which is all you could ask of any educative experience...to change your perspective and give you something that you didn't have when you started...It is no good going to school and arriving and going home in exactly the same state as when you went in. Similarly you go on YouTube and you seldom come out exactly the same as when you went in...

Int. A: It's fascinating where it is going to go...at the moment the social features maybe the likes and the commenting...actually when you log in to YouTube does it become more like a feed...You is a social network essentially...it has become that...It's just like Facebook and twitter and it has to make money...imagine if it became monetized at a pound per click...

NRG: Imagine if it became politicized and they decided to get behind a particular political movement either left, right or middle...You are expecting the algorithm to be generated of time watched, clicks etc. but what if the algorithm becomes just a little right of Donald Trump...with almost imperceptible sub messages on the screen...although they are working in imperceptibles at the minute...as humans are so predictable ...we are perfect for data...which is why it works.

Int. A: Where it goes I don't know...It is so wide open...I Kind of take heart in the fact that so far silicone valley has been apolitical...I am so apple centric and the fact that they've built an operating system that you can't get into unless you have a pass code...with no back doors...Even if various governments try to force them ...I like the fact that they are trying to stay out of politics...

NRG: You can see how tempting it will be for Google as a virtual state of power. Almost like the U.S. not to use its power. What a mechanism to own...

Int. A: You sort of wonder if these big global companies are the anarchists...they are saying no we are not going to give you our data...we are going to do our own thing...we are going to make our money...Apple has a greater GDP than many countries and they are the innovators...And I know I am very pro-tech but you just think that the political systems have not changed for some considerable time and then you've got these companies that are not led by politicians but they are led by innovators for good or bad.

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and for profit or not they are making a bigger impact on the day to day lives of everyday people.

NRG: Well look at the Arab spring and its repercussions and that was all mobile phones...and when Merkel opened the doors it was immediate...Let's go...

Int. A: Yes...

NRG: So in a sense despite being apolitical it caused a huge political change...

Int. A: Yes. It did...I still see them alike to anarchists...not in the literal sense...But I just don't see them as a Government...More like a thing that empowers rebellion...maybe?

NRG: Yes.

Int. A: In some respects it lets people do their own thing

NRG: I do hope it stays that way, but humans, you know what they are like...they are terrible!

Int. A: Yes. But people are quite savvy and I think the moment they see YouTube or Twitter or Facebook becoming something that they don't really want...people are quite good at moving on

NRG: er

Int. A: Or will see new companies grow out of the bad decisions that will inevitably be made further down the line.

NRG: Mmmm. Oh well on that note...

Int. A: Unless more people get empowered to build... and create...

NRG: Well that's the beauty of and the hope that this new knowledge that should be generated just by having access to an archive that goes back in depth from the earliest recordings to the present day...despite it always being in the past...by its very nature...a live feed is as near as it gets...it can't push into the future ...nothing can...What's in the past was once in the present...Now there's a philosophical discussion...It just needs the creative genius of a human to connect these things [via asynchronous chronology]..That the educational application of YouTube I am trying to push...

Int. A: Yeah. I think the classroom is the initial catalyst and as long as we are showing students how and where they can learn more.

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NRG: Yeah, yes.

Int. A: And the students can say I am going to learn this way and they can...

NRG: Or at 2 am in the morning or at the weekend ...whenever it takes their fancy...

Int. A: Yeah.

NRG: OK. I think we are done Man! Thank a lot. And off you go to fix your i-phone six...

Int. A: I hope that was useful

NRG: Very useful from the perspective of someone who sits on both sides..

Int. A: We should make a podcast or something...

NRG: Karl Pilkington and Ricky Gervais? (Ha, ha) (Interview end 57 min)

NRG: How did music first capture your attention? How has music held your attention?

Int.B: Sound.

NRG: Sound?

Int.B: Yes. Sound. I was brought to music by my Dad, because he liked to listen to the radio and my brother started to pick up you know lessons. And I think it was very much like the middle class syndrome...like when your brother is playing an instrument then you will begin playing an instrument...So, I started playing the piano...or YouTube...when I was 6 years old and it was not traumatic I kind of liked it it was very much like a game...you know when you have to find the correct fingering on the keyboard so you find the numbers and...er...I found I was quite good at that and in a way it was like a new game...and I was very good and I kind of liked the challenge , but then I didn't become much interested in learning to play the piano because I could really understand how it was done...and it was always showcased to me...I appreciated it, I really liked it...and I had to learn a piece of music that was really, really hard work...and I never really understood how people could make that music and how I was not really able to that by myself...And so, I lot go and as I was 12 you discover football and other things that are more attractive you just stop ...and then...I got back into music with just sound...Like we talked earlier, I was in a church and there was this guy he was playing acoustic guitar, which is not very common in Italy, now it is, and a classical guitar is the guitar that everyone would have at home, ah! So he was playing acoustic guitar with some very nice chord sequences and somehow I really liked it...er...And the next thing I know I just begged my parents to buy me a guitar...But they bought me the guitar that I didn't want they bought me the classical guitar...I also remember that I also liked the sound of the electric guitar...Because I noticed that you could change the sound and that with one instrument you could suddenly be more aggressive and I started to like straightaway rock music...and one of my discussions with my parents was about trying to get an electric guitar and they were not willing...because I had to demonstrate to them that I was worthy so I had to take up classical guitar...before moving on to another expenditure...

NRG: So, after that second epiphany in the church... it was something inside you...

Int.B: Yes. Yes.

NRG: It wasn't imposed on you from the outside?

Int.B: No. It was completely...from my own...

NRG: Completely self motivated...

Int.B: Yes. It's the drug that drives everything...that natural inclination. You are naturally drawn to muster how to make that sound and how to make it on your own...and to be honest it is about personal pleasure more than anything else...Erm...but yes, it goes back to that sound.

NRG: So there is a value in doing it for you, personally. Of the things that you have accomplished in playing music or teaching music what are the most surprising or unexpected things that came out of playing and teaching? Any unexpected byproducts of you doing music?

Int.B: Personally, for me it was a thing that I enjoyed and that was why I kept doing music for so long...And the fact that I was managing to progress and I always felt like I was a little bit ahead of the people who were playing the guitar of the same age or the same years...

NRG: Yeah.

Int.B: It was...kind of linked to a competitive side and a little narcissistic.

NRG: Narcissistic tendencies...

Int.B: Yes. Seriously...or the knowing that I could maybe do something better than another guitarist of my same age or years and that was probably the driving force that made me practice more...'cause I kind of liked the fact that I was ahead and I didn't want to lose ground...and whenever I was not practicing or performing I would feel it as if this is not good...like that kind of zone in your head...that I don't have any more...but now you see I'm not the same guitarist that I used to be when I was young...because when I was young I used to have a certain hunger about becoming really, really good at the guitar and I was really serious about it and nothing else existed for me apart from going home and playing the guitar...I really happy about that nothing else mattered...then it kind of changed and in a way I began to understand how certain professional musicians can afford to do that...I understand that in a way it is something that you have to lock into if you really want to keep a certain amount of professionalism

NRG: So at that time you were learning yourself so you were doing the kind of thing like listen to records and cassette tapes and going backwards and forwards trying to pick up what is being played?

Int.B: Yes.

NRG: So you were learning with your ears?

Int.B: Yes. But it was not really a choice though...As I come from a small village...and at the time there was no internet...so it was either living in a bigger city or buying some books but even then and that's the other thing about this...I was never very keen to go to somebody else to show me how to play the guitar because suddenly I would be out of my comfort zone...You

know Like the Tuesday One 'O'clock...and I knew that the guy was going to be really good for me but somehow I felt there was a barrier of some sort and I never felt comfortable with it...never since I was a kid playing the piano...and I also had to take classical guitar lessons and I never felt at ease and the learning by ear always gave me that peace of mind...because I can do it when I want anywhere I want and at what speed I want and that I could do the same thing over and over again...then if something doesn't work you know it and you know you are going to work on it. So going back to fact 'did I learn to play by ear' it was the only way...So you had your CD and even the tape I remember you had to rewind so much and you had to listen...And I keep saying to my students and other friends and colleagues is that what makes me a musician is to have that acute sense of hearing and the understanding of what's going on ...it doesn't come from the books...but it comes from the fact that I've spent endless amounts of time listening to the same thing over and over again...The books helps later maybe to classify and ensure that the speed of thought would get faster in how to communicate it with other people but They (books) never really taught me how to do anything...

NRG: It just consolidated what you knew...The theory reassured your ears?

Int.B: My time in England since I was 19 gave me a more ordered way of working but it didn't really make me the guitarist I am today

NRG: The next question here is are you intrinsically or extrinsically motivated? But it looks to me as if you are intrinsically motivated.

Int.B: Yes.

NRG: Obviously you initially heard something outside of yourself...sound

Int.B: Yes...But then I started looking towards music I started to find bands and I started to like a certain guitar solo or a certain sound and then again it became the challenge...and then that kind of pushing it all the time...like a bodybuilder goes into the gym because he is never happy...when you first like to play the guitar if you can play 'nuendo' then that would be a dream come true...because you work so hard...then after 2 months work then there is another piece of music and then you surprise yourself about how much you can achieve...simply because you are setting yourself to do...again something today that I simply have no longer got...(Ha, ha)...If something appears too challenging I say that looks too challenging let's do something that's a little easier

NRG: So let's move into the region and we've seen how you have learned without the World wide-web with all of its marvels. How would you best describe the possibilities provided by the new technologies, maybe YouTube for our purposes, within music education or just for a musician to learn to a new entrant to the profession...Let's say you were mentoring a Beginning Teacher and they are coming from a traditional musical background and they haven't done too much with technology? How would you explain the possibilities for technology...good and bad?

Int.B: I would have to say...And now speak more as an educator...One aspect of music education that I have always tried to pass on to my students was to pass on my own experience...And that listening to music and trying to copy music by ear is what I really believe does work...and that's what I try to tell my students to continue doing...And I always say the Internet is good it's great I use it and do it and if I was a Kid I would use it myself as well...Do not just go straight into the tablature...Try first...Try, try, try and if you really get stuck then use the tablature...Myself if I am trying to learn a song and I get stuck and I don't have the time I just go on and it works and that is the benefit and to be honest it does save time...and it speeds up the whole thing and actually it is very, very helpful. But I always start with the fact that it is good to learn how to listen to music and to practice the aural skills first and then use the tab later... er...the same thing in way of technologies, because in a way, now it is digital, but technology has always been used by musicians and one thing that I learned while at college was the importance of listening to yourself while you're practicing...which is something that I never did when I was a Kid...and that was another epiphany in the terms of techniques...because when you play and you practice you think you are doing something to a very good standard...and I remember when this new approach of actually recording your practice sessions and you record and listen back...which is actually quite demanding...but when you actually listen back to the tape you actually realize that you are pushing the time and that some of your parts were not very clean and dynamically you were very flat...or that sometime you could tell when you played fast and then slower...And then it started to make you understand that you had to work a little bit better on certain aspects...and I was using cassette tapes at the time and now you could easily use something like Garageband or you could even record video yourself and you automatically adjust your posture...so if you are a student at the first stages of guitar playing...it can bring something, even though you do not have the luxury of a qualified teacher around you...but by looking back at what you are doing you can have a way understanding what is going on...Obviously it depends on which levels...because if you are a beginner at the guitar it is very hard for you to know and you would still need someone to tell you how to progress... I think (biofeedback) is much more useful at the stage when you are beginning to take care of yourself...And that will help a great deal ...because you have all the tools now that will enable you to look back on yourself and you know what is good technique and bad technique...or what sounds good or what sounds pushy...

NRG: How would you quantify the value of YouTube as a Music Education platform within the key stage 3 classroom. What value do you put on being able to select any band from any time frame? Let's say the Doobie Brothers live in 1975 or whatever it is you want them to see and you can punch it in ...and there it is?

Int.B: It is important to show them the successes of the past...it is important to show that music is linked through the past and is especially important when you have a student who does the Blues scheme of work and he really likes it ...so...then you should listen to Stevie Ray Vaughan and then you should

listen to Muddy Waters. And the fact that you have YouTube and that you can actually play the performances helps a great deal and to be able to show the real person performing and to be able to appreciate the sound at the time...In the past Muddy Waters would be a CD and only if the teacher had the CD or maybe there would be a book about Muddy Waters but it would not make the same thing...because you have kind of bypassed the whole experience. YouTube can facilitate that link for the student between important artists of the past and show them live performances...

NRG: Can you remember the first time when you used YouTube? ...When it first came out around 2005, 2006 when it suddenly appeared people thought this can't be real...you'd punch something in and then it would appear?

Int.B: I think the first time I went on YouTube was more to dig into the past...Let's say you know things that were very popular in your day and age and you would say I would really like to see that ...because before we didn't really have that...You know if you didn't have a tape it was all gone forever...so...the fact that you had that tool...was really quite nice and even with music you could listen to Black Sabbath in 1979...or Queen, before you have had to have the VHS, now it is there and you get all this and you don't just get the official not just the release of the video you get all this other sorts of stuff...Then of course the best bit for me was when they...how do you call it ...make a spoof version

NRG: Oh yes.

Int.B: ...It was fascinating in a way because they were experimenting with the technology and the visuals...especially when your memory would generate a strong sensation but then they would manipulate the sound to trigger the aural effect.

NRG: That's one big thing about YouTube...because the visual aspect interests me...as you were saying earlier on about sound and its vibrations being really integral to human and it's this thing...and the sound carries a lot of emotion...But we (humans) are generally considered to be vision orientated...A lot of the children we play YouTube to...really do seem to latch on to the image...as well as the music often to listen to music without the image is proving a little bit difficult...What's your take on the split between the audio and the visual and how is the visual important from your perspective as a musician?

Int.B: First of all I think the music industry changed since MTV opened up...Because I still believe it had an impact on how people make music...Like if you look at the 1980's rock was still prevalent but if you look again at the way the bands were playing...There was no sophistication...It was really supposed to be let's say real like ...erm...Metal was a certain culture that latched onto that kind of showing the reality of the musician and the fact that they were real people playing some kind of hard music...MTV changed it even in Rock and it even introduced the Glam Rock where in order to play a rock concert...

NRG:...They had to look a certain way.

Int.B: But they still played Rock music and quite good but eventually the imagery took over even in the way that the music was written...And if you look at the way that the bands began to come up with the design of their new outfits and you started to see how they started to sound a few years later...Actually even the sound became a little bit sweeter a little bit fancy as opposed to digging into the real roughness of real rock and Roll...it kind of changed completely

NRG: Production values?

Int.B: I think production values had to change to match the imagery...the image was moving so much into pleasing the audience...very sexual...and the music had to adjust to that otherwise you would have that split kind of information of a man who really looks like a woman ...with makeup on and then suddenly it would be Black Sabbath and it wouldn't make any sense...they had to change the arrangements ...I'm sure...and change the sound of the guitars a little bit...

NRG: But after MTV we've got YouTube...and there are two strands to YouTube there is the user generated stuff with the general public uploading now more and more it is getting commodified by professional companies who are slot in their professional videos of artists and musicians and some of these how to play (tutorials) are extremely slick and they are money making enterprises...they are not, as YouTube intended, for anybody to upload their life...

Int.B: No, but if you look at the mainstream music of the past ten years...you will have to agree that video clips have nothing to do with the music itself... and...er...and they are completely designed to win over a certain category of people...it is really targeted and the more you look into it the more you realize that it is designed to win over the most important age range in the world which is the teenagers...you know the people who would sacrifice anything for their idols and I think that anything that you look at from Rock or Rap is targeting the 12-16 year olds and I think they use in their videos all the clichés and trick tricks...

NRG: So you are saying that it is marketized and professionalized...

Int.B: Yes, there is so much research...Yes, 100 per cent. The thing is that they are trying to sell something through the eyes of a child that looks absolutely real but through the eyes of an adult you can see the beautifully orchestrated machine that is actually selling...you know...this kind of imagery that has nothing to do with the artist himself...

NRG: So what do you make of the non-professional uploads where they decide upload their wedding band or decide to show you how to play a John Martyn song that they haven't quite got right?

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Int.B: You see that's the thing of YouTube and technology it offers positives and it offers negatives then it's the people...and how they use it...and so far the medium of YouTube to me has been trying to replicate something or upload something but nobody has ever thought of how to use YouTube to model teaching and learning for example...So the guy who is uploading Himself and putting up a video is not really doing anything new...Yes you can call it technology...but it is nothing new...they haven't invented a new methodology...and I think by now people could have come up with something potentially really, really new and really interesting the fact is we are not really concentrating on that...Everybody is missing the point...when we use technology we are actually using it replicate something we used to do before...only in a different format...

NRG: It's just in the past...

Int.B: Yeah...but now we do it in front of a camera and we upload it on the internet...What am I actually watching...I am watching a guy showing me how to play the guitar...exactly like I did 25 years ago...So I don't see any revolution there...Maybe the only difference is that you can stop and you can pause ...and the benefits of that are that you don't have to be in the same room with somebody else...there are things it can bring ...like it can break distances...actually you can bring it down to all sorts of levels of society... But as you know music is not that simple either because if you want to teach a student that's never played the guitar before it could be an experiment to show videos to the child for the next five years to see what progress he would make just using YouTube...

NRG: Apparently...and... this is breaking news... A student has just been admitted onto an undergraduate course at the London College of Music in Greenwich (2016 start) who only used YouTube tutorials to learn his instrument; I don't know which instrument they specialize in...

Int.B: Yeah...It is video but YouTube is also sound and it is kind of like going back to the tape and learning by ear...so it's pretty much the same thing...like how many people learned by ear? Er...I think the majority of Pop musicians in the world...some of the most famous bands actually made music without actually knowing what structure is

NRG: Or they couldn't read a note

Int.B:...and yet they come up with the best riffs...

NRG: Led Zeppelin...OK. Here's one... Say you're in a Key Stage 3 lesson and you have YouTube up and it's ready to go ...do you think it is important to follow your instincts and keep things spontaneous or...obviously you have got to be careful or sometimes you find that misleading or compromising especially if it is not a clean video which can be a problem... But following that meme thing...You know when you start off your doing a particular Rolling Stones track 1964 ...paint it black...with the little riff on the E but then you see

something similar to it in the right hand column do you ever ...in flight...change your plan?

Int.B: Yes, yes...definitely.

NRG: You say that looks good and if it is ...you will roll with it? Because that seems to me one of the affordances you can follow...that there is this line that you can follow...and it's up to you where you go...You can be led by the right hand column...Which reminds me have read and understood in their entirety the terms and conditions of YouTube?

Int.B: No.

NRG: And have you changed all your privacy settings so you do not get predicted content in the right hand column?

Int.B: No!

NRG: Just another quick...Jobs worth question...Have you read through Google's terms and conditions?

Int.B: No.

NRG: Have you read through Apple's terms and conditions?

Int.B: No.

NRG: A lot of people are in that boat...that's very interesting. So would you structure your usage of YouTube? Researchers in mathematics carefully selected YouTube clips in order for the students to discover revelations and the students are supposed to make the connections as opposed to the teacher making all of the connections...it was very well planned out... But the obvious problem was that the students couldn't see where it was going. Do you ever use YouTube where you throw something out to the class and then say where do you want to go next?

Int.B: I personally have never done it! I have never asked the class to chose from the right hand column...It's too scary!

NRG: We have 22 iPads and they can go off looking for the song they want to learn...with a musical futures style...and obviously there is a lot of stuff they come across...

Int.B: I do ask them or I have done it in the past where I give them access to i-pads or access to computers...actually the school where I am now they bring their own phones and they can use the Wi-Fi So basically I say, and I have done it just this term with the year 9's, I just ask them chose a song...that you want to learn...kind of like musical futures...And they do...they choose their songs...But as you know the role of teacher becomes that of modeling the songs and you have to call it with regards to difficulty, because some students

would like to learn, I don't know...Vivaldi No. 3 or something like that...Like OK. it is not going to happen and there is no way you could model it down...because you would have to change the whole song...So that is sometimes the problem I have when allowing so much freedom...But you do get them interested and they can begin to research and they can even get interested in classical music...almost by following the right thing by mistake!

NRG: Yes...

Int.B: And I think at the end of the day anything that spurs interest and curiosity I think is a positive thing in education...So if you get this kid who can't really play and they get hooked by this riff from Vivaldi's Number three, or whatever...and you know there is no chance that this kid is going to learn that piece by ear...But it still could be his epiphany...and he goes Whoa! I really like this violin thing and you say great we can talk about this piece of music later...and maybe try to sort out some violin lessons and maybe try to play some violin...It can be done in that way so I think if it is good enough to spur interest and curiosity then it's worth it.

NRG: And presumably the curiosity is that little bit before they become creative...Like mash this video over that one or use the same chords and I can put the two songs together...So is it that autonomy to be curious that is the key to Key Stage three? Where you allow them to be curious as opposed to teaching them everything?

Int.B: I think it's important an important element...but it is always the difficulty of the blend of how much curiosity and how much teaching them how to progress technically on an instrument and that's the challenge...

NRG: Can you teach people how to be curious...?

Int.B: You could try to...I think everyone is curious...it is a natural instinct...as a teacher you cannot plan a lesson and say that I am going to make my students curious...say after one year! You can implement parts of your teaching that can encourage students to be curious. For students to be curious and creative, that is the other side, the teachers at the school need to be prepared to allow that...which is a big step and people need to take it together

NRG: Because when you're creating something you might have to destroy something that is already there...

Int.B: The challenge is that creativity cannot be forced not just in a classroom but in life ...you cannot go home and save...right let's go and make a painting...Creativity is something that needs to be spurred, it can be helped, it cannot be forced. And I think you need time and allow people to do things in their own way and at their own pace and allow them to make loads of mistakes as well

NRG: and make lots of connections...

Int.B: The biggest problem in education, regardless of how schools say we should promote creativity, is that (the school) always expects a product at the end of those three months...The beautiful thing about creativity is that it either can or can't happen in that time, but the important thing is to practice that process...But if we are going to expect a product that is going to be valued and then assessed then it defies the purpose of being creative in the first place...The creative process is intrinsic and you can see it in the students who like to go back to the studio because they've got this creative thing going on...

NRG: When they get distracted from something you have given them to do...If you've given them this chord and this chord and this chord and some children think just a minute I can see or hear another chord here and depending on the teacher, that can go down very well...But when it's very didactic (the student) is then out of line with the control system they are in...And YouTube and the Internet are so hard to bring into the formal educative setting because they are so far out of the school steerage systems...Because schools have got an axe to grind so to speak...they've got certificates to get, they've got statistics to meet, they've got percentages to reach...And the journey you might take as a curious student...Well it can't be...really... proved. In which case if you can't prove it and you can't assess it...

Int.B: And I suppose you want to spur on creativity you really want kids to explore more in their own time, away from school, because that's really the key. And there you see is another problem because the controlled assessment does not allow that

NRG: No, you're right.

Int.B: Not if you really want to apply the rules... I think that's where everybody would agree if you said we want more creativity in the classroom...They would all say yes of course. But it is difficult to market and difficult to contextualize it...Creativity is basically creating but when you start to put it on pedestals then ...you know...Creativity becomes something else...It can become competitiveness...it can become narcissism

NRG: As we were discussing the other evening it is difficult for a musician to learn something new that may be difficult, challenging or even beautiful in the wrong environment...And the wrong environment can often be a very noisy classroom with other people doing different musical things at the same time and I think a professional musician would find that environment difficult let alone a student who is just beginning their musical journey...And I think one of the affordances of YouTube is that they can be socially and psychologically safe whilst they make mistakes and learn it and then they can bring it when they think they've got it and then they can bring it out into the public...

Int.B: Yes. That's a very, very valid point...yes.

NRG: But the thing about schools at the moment is that they require, even though they are trying to absorb the technology into the formal by bringing in the informal, that binary, into schools. The difficulty there is around learning a difficult skill within a difficult environment, let's say a wrong environment...just makes it difficult...With only 50 minutes a week ...but that's the way the world is at the moment...and we didn't come here to try and fix the world or Music Education for that matter. We are just looking at YouTube can help solve some of this...it is seemingly a quite personal and private relationship with music that everyone has and often you do not feel alone if you are playing your instrument and I don't think that many educational institutions at primary or secondary understand that. I think that no musician likes bring out their dirty laundry by learning something new whilst there are other people around. I am sure it applies to other skills as well Medics probably have the same thing with operations and practicing and making sure that they are doing it right before they try it on a real person. There are a lot of parallels between medical use of YouTube and the kind of things that are done for musicians to keep getting feedback from a very positive performance of something...If they keep seeing it done correctly... those mirror neurons and that...

Int.B: Mm

NRG: Here's one. How much time percentage wise do you spend on YouTube? A week...for whatever reason...even if you are looking for DIY help? Vimeo or some audiovisual app as opposed to Spotify.

Int.B: Sure... Not much...I would say very little...

NRG: At work?

Int.B: Well at work it depends...because I have never been a very big YouTube user...And since I have been in Africa with the broadband issues the Internet is very slow...So to upload videos it takes time...so automatically it is not the best platform...

NRG: So have you ever considered uploading? Apparently it is only 1 or 2 per cent of YouTube users actually upload...

Int.B: I have uploaded...

NRG: For education or for your own use?

Int.B: For my own use and for education I tried to use YouTube to upload radio broadcasts but I had to change platforms because I was breaking all sorts of technicalities...But I did try to create a YouTube Channel so that students could go there and listen to it but I couldn't because of copyright issues...

NRG: What are your thoughts on the musical access provided by YouTube? How important do you think an open source like YouTube is for those aspiring musicians who physically cannot get to a teacher?

Int.B: It is important...It breaks the barrier of distance and many things it's a tool that allows you to bypass the exposure of learning an instrument in front of somebody else...so you can do it in your own time you can do it in your time...and you are free to choose any version of a song because now there are millions of versions of the same song and you can choose also the style that suits you best... Sometimes you want to learn something on YouTube and sometimes the overall performance is not good enough...or there is something about it you do not like...you can choose your preferred style...whereas before you had one teacher and that was it...It kind of opens up many solutions that you can actually refine...to suit your own needs.

NRG: Do you think it's changed, or it will or it has already changed a shift in how music is broadcast, learned...has it changed?

Int.B: It's changed for me in the way that people are embracing music and the fact that digital technology and YouTube is giving the chance to anybody and everybody (emancipation) to actually record themselves and upload and publish...Er...you know something that 25 years ago was absolutely unthinkable... Er... Now everybody has got a real chance and that I think is the real strength of technology...you can afford to buy equipment reasonably cheaply to record, upload and stream on different media channels and it can be done...and then you bypass a great of constraints that before were present...but at the same time...and we are at this massive change, I think music at the moment is a bit in purgatory...It's not heaven and it's not hell...people still listen to it but nobody is clear about how music is going to be done in the future and I think because of this and that now we have had all this freedom where people are really able to do whatever they want but at the same time nobody is buying... necessarily...it's not that we are really promoting so much independent music making because at the end of the day we still insist on the top ten

NRG: Do you think it has pushed live performances? The fact that the digital platforms are ubiquitous...Do you think that the emphasis is on the live aspect of music? Where you are watching them and that is where the money is?

Int.B: Yes...It's more in the marketing...and for people to be visible and to create there own little space...

NRG: So in a weird way the technology has brought it back full circle because before any kind of...before the gramophone was invented...you had to be there because if you were too far away not only couldn't you see it but you could hear it...So everything was live everything had to be live. Then in 1870 or whenever it was Edison came up with a thing and suddenly you could take music away from it's source and play it asynchronously at midnight in a country far away from the guy who recorded it...You could play it...That went on for about a hundred

years and now we are returning to standing back in front of people...Socially it is probably a good thing because people are getting together as humans and basically going back to how it has always been. For thousands of years sound has been made with a group of people around, with a fire and a drink...

Int.B: Yes...

NRG: Then we had this 100 years where we disembodied it...very low quality acetate things then horrible cassettes and non-sense...Then massive quality with CD's and mini-disks...Now we have high definition 4K or 8K resolutions...Now the flip...before the money was paid for the record, now the money is being paid to watch the Rolling Stones Live...Interesting.

Int.B: It is...

NRG: So...Is there anything when you have been on YouTube, I know there is stuff for me, where you have played something all your life and it has been fine, maybe a Hendrix riff maybe the Doobie Brothers Long Train Running...Does he play it at the tenth fret ...does he play it at the 5th fret? You know because on the guitar it can be played in all sorts of different places. Have you ever come across something where, you thought, you needed to see it? You could hear it, and when you saw them, and I always look for live (performances) if I'm interested in somebody playing something...I like to see them play live because then you can see the positions that they use, anything for you when you've gone in there and saw that Pat Metheny does that!

Int.B: I have looked at this ...Yes of course...I've never sort of found something...

NRG: Not even a Capo on the third fret when you thought they had tuned differently?

Int.B: If I was struggling with something I was learning to play then I would look to see if there was a way that you could bypass it...But personally as a guitarist I see there is a particular way that people do certain things...And for example there is one thing that I learned through tablature...Tablature is great as it is a massive bypass. No it really, really helps you to execute something...But what I learned was that the way the musician was tapping the guitar was good for him but not necessarily good for me! So I had to re-change the Tab to suit my own needs...(technical discussion on guitar fingering...) so in a way you have to readjust...Yes it's quite interesting because now you have the chance to go in detail

NRG: And now you can observe people who are not even alive now and look at their hands and look how they stood and the way they held the instrument and all of that...It is fascinating and it's a real archive of information. What do you feel are YouTube's main strengths and weaknesses with regards to improving overall Musicianship? It could be theory and or practical...

Int.B: Improvement...In musicianship! Musicianship is a big thing. Technically yes. Definitely you can choose your own repertoire and you can choose your own style, you can find a song that is a little bit slower than the original you can really refine it to your needs...and again it's that great thing of pausing and playback and watching the technique...And, again it links to being able to find the formal music, that's definitely a positive so when you are on that clip maybe you are thinking I could do this, I could do that...Which spurs your interest and your curiosity and it may not link necessarily to what you're doing right there and then but it gives you the idea for something else...

NRG: How much experience do you think you have to have to be able to go in there and find,...as your not to know if you're not a very experienced musician whether this person is playing the correct thing anyway...?

Int.B: Yes...and that's my negative because most of the time we choose music as entertainment...So the dangerous side of someone going on YouTube and attempting to learn something positively fro the right hand column or whatever ends up watching (not learning) videos...

NRG: Being distracted?

Int.B: and just passing time...and you have actually forgotten why you were actually watching YouTube in the first place...and it becomes (negative meme journey) Oh! Look at this! Oh! What about that! Oh! Maybe this! And it happens to me many times...You go to look at a football game and then it leads to this other thing...fight breaks out in the crowd...and before you know it you are watching boxing!! And you say, 'how did that happen?' So, you start with very good intentions about finding out about the highlights of a football game and you end up in a completely different direction...

NRG: It's exciting in one sense but it is the opposite of focus...taking you elsewhere, taking you on a journey...

Int.B: Yes. It can take you very much into a different experience...I think it's also that YouTube is designed to...I think the main purpose of YouTube...Let's go back to that, YouTube is not designed to help people learn or you know...or improve ...I think the main thing of YouTube is to entertain.

NRG: It does have an education channel that is specifically dedicated to it...but not many people use it...

Int.B: Ah! For example you can go on the TED talks...and when I'm on the TED talks I find it very limited ...jumping from one thing to another...I will research about music for instance and then I will see the next tab and see that that looks very interesting ...but I will keep it very much in the sphere of Music education for example...I will not jump to physics...I will not do that...so I know that that talk will be tense so I just skip it ...but with YouTube it is also the length...and you find things very short and very diverse and very funny...I can say it's very distracting...

NRG: Mmmm. Since 2005 when YouTube Kicked off how has your personal musicianship and your practice as a music educator changed? And can you imagine how it would have been without it?

Int.B: I don't know...Before teaching in a U.K. environment where classes are challenging and the interest of the children is very low...So you had to rely on things like YouTube...It does work...It has an effect...Don't get me wrong! Choosing the correct video with the correct emphasis on a particular aspect would work a treat...It actually could work to focus the class towards something...So it's very, very, very important...But then for example I have been in situations where the classroom technology is the bare minimum where for example you don't even get a projector...So the thing of videos completely disappears so then you start to ting OK. I will have to play with sound that's your only...Err...And it is interesting to see in other environments as in my last school for instance I didn't have a projector until two weeks before Christmas 2015...But at the same time the students don't have the same kind of need to be motivated towards learning... The very fact that you are as a musician and you can play the guitar in a certain way it is enough for them to be willing to try...So for me in that kind of way the video, I don't really have to rely on that...It's not actually important I can bypass it...But, If I had to come back to London and somebody said I would like you to teach this class and I give you this class why don't you do a lesson about something...I would have to say do I get a projector and etc. because I would have to rely on something strong and effective that can focus the people...It maybe not related to guitar skills but something that is related to ...erm...you know...

NRG: Do you recall the old film music trick of opening up a Batman clip and then muting the Zimmer and playing the soundtrack to Jaws as the new soundtrack...We have done that for years where you will disrupt the meaning of the image by playing different music behind it...As with the John Lewis Christmas advert where every Christmas I place some sinister music behind the imagery and totally change the meaning...Because sound, music is a more primary evolutionary sense, it always trumps the visual...The music changes whatever you have got even the happy clown bouncing around, if you change the music behind it, it can become sinister...So opening up several screens is a kind of innovative way to mess with the technology and play with the synaesthetic outcomes. Is there anything that you have come across where the technology of YouTube has been subverted? Like it's not meant to be used that way? But you've seen and it works and it's unusual?

Int.B: Yes, yes, yes...Ah! ...I see what you mean...I was telling you the story of...the how do you call... I don't remember the technical name for that, of taking a musical performance of Miles Davis then changing the music slightly.

NRG:...and putting some mistakes in...

Int.B: And in a way...and funny in a way as I looked at it in detail during my Masters...and the hilarious part is that the trained musicians will know...

automatically but the untrained ears will have to be told or wait a bit longer...So...the visual can trick the individual more than the sound and because we know Miles Davis so we know it cannot be possible...You play for a six year old ...he actually believes it and thinks that this guy is so bad...The thing was a nice experiment in a way because it creates the false expectation and creates a humorous response...

NRG: Well...to get the Humour you need the knowledge...you need to know how to put these things together...Without Knowing Miles Davis there is no Humour...

Int.B: Yes, that's the thing. The actual guy who researched this and published his findings about how people reacted to this sort of spoof found that those that did not know the reputations of the spoofed artist even started commenting quite aggressively...which is even funnier for the people that know...

NRG: It's interesting with digital technologies with no generation loss how you can do all sorts of things to the image and the sound so you can manipulate it and mess with it as much as you want...Are there any illuminations, curiosities or insights on the use of YouTube, within, music, music education the field or a specific domain, either instrumental technique or composing that we have not really touched on that you would like to comment on...Or where would you be if YouTube disappeared... as did all of this ability to access this archive of historical sound and music? You could spend the rest of your life trying to find things that are on the push of a button right now?

Int.B: The resource is very important. To be able to rely on YouTube...My point is that I still think it is being used as a kind of social media and entertainment platform. And consequently most of the content on YouTube is targeting users who are using YouTube as an entertainment platform...rather than the way you would see it...If YouTube were to be shut down tomorrow a person like you would go 'Oh! No'...music clips and records...and speeches are gone and I don't know where to find them...whereas the average YouTube goer will just go to another site...Basically I want to get entertained I will look for the next entertainment platform...I think that's what the vast majority would do...

NRG: Well to be fair, I have been doing an awful lot of DIY and had to install a dual-flush cistern that I had recently purchased. And sure enough I punched in 'How to install a dual-flush cistern and I got some fantastic clips of how to do this...step by step...So it's not just music in a sense it's nearly anything...

Int.B: They are becoming the mystical binary and anytime there is a problem...a how to problem ...the first thing you do is Google and most of the time...you want to see the video which is the YouTube answer so you can know how to do certain things...But again, actually, it is a great thing, I don't believe it is a bad thing at all. The problem if I can say that...the negative aspect is that sometimes people rely on a little too much

on this technology rather than even trying...In Hong Kong and China there is some research that suggests that people are abdicating even the most basic personal responsibilities and trusting these things to technology...Even things as basic as 'How to make coffee?' You would be surprised that they would put that question to YouTube...It would be surreal if you were in the same room as people using other coffee machines... So in Asia you can have the situation where a person would firstly Google a question rather than asking the person who is doing it right there! So I would rather put my faith into this digital media...that I'm apparently very happy because it gives me the right answer...So if you were in Africa where people don't have access to people with certain skills then it would be a very good platform...So it all depends on how we contextualize it...So if we go to Malawi and say I really don't know how to do this but look...They can actually watch and learn from it and they will learn from it...And that's the great thing about it...

NRG: That's how we've always learned when there wasn't a digital interface we would copy other people and learn from them...

Int.B:...That's the thing ...a group of 5 people working on the same project ...one gets a problem and they default to Google for the answer!!

NRG: Well if you don't use it you lose it!

Int.B: it seems for something simple people would prefer to ask a computer rather than another human being. But that's not necessarily a negative point...It's just for us we are brought up to live in a certain way...and you know when there are changes people are usually averse to change...

NRG: So what...This is the last question...So what do you think with this Marshall McLuhan the medium is the message and the massive interconnectivity through an ever expanding matrix of virtual synapses, dendrites and neural connections...What's your idea for the near future for this, during your lifetime what do you think the outcome is going to be?

Int.B: Er...

NRG: For Education...Let's stick on education...

Int.B: There is obviously going to be more and more reliance on these kind of platforms...the Internet and everything that comes with it...YouTube. And I'm sure that in the future certain platforms will become so huge and so strong that we will start to change the way we perceive education altogether...

NRG: But does it worry you that they are not publically owned. This machine Google and YouTube are privately owned and they have an agenda with the business that they've got...

Int.B: Yes and that's the issue...

NRG: They create the algorithm...they create what you look at

Int.B: Ah! Google and YouTube...and all sorts of other social media are designed not to a particular task...like educate or even entertain...To be honest it's marketing...

NRG: There are things they do take down ...so there are things they don't want there... a cat walking across a kitchen floor will go in ...But there are things that go in that are 'steered' and for instance what is recommended to go in the right hand column...The mirror that they are giving us is vulnerable to metrics and the market and it's starting to...So rather like the drug dealer we have been given the free run and instead of us changing it there is a potential for it to change us! And maybe not for the better.

Int.B: No but in the context that we are talking right now I don't think it is positive...at all...there is too much information being transferred...and it's unaccountable...Because it is masquerading as entertainment people don't see any danger in it and say 'what's your problem?'...So we are silently moving into a world where soon the whole world will be watching videos!

NRG: They know using your I.P. address who you are, when you're watching, for how long, and what your watching and when you stopped watching...and when you went to the next video on the right hand side...the metrics are so complex...and they can store an unlimited amount of data now...which is huge...And then they start to work that data and crunch that data ...there is a lot of power in big data! Big data is the latest thing...

Int.B: And as you know it's all about how to use this data to manipulate...

NRG: And to monetize...

Int.B: Or even to dictate...to be honest we are talking about Google and YouTube but books and newspapers...

NRG: Randolph Hearst was the same.

Int.B: retrospectively you can know see it how Governments would win elections just by how the newspapers put a spin on it...And it all started as politics...before the newspaper...because you had to have some kind of argument...(20 secs iterative) it's the same manipulative strategy it is just that it is getting more refined...

NRG: Google are saying that they, whoever they are, are apolitical, but there is no way...Everything is political...If Google... becomes politicized and if it takes a stance or a position, which it obviously does because it is wanting money, so if you take a position you are politicized and yet...

Int.B: Yet you cannot say that because I have Gmail account and I don't know since when but I now have adverts...

NRG: Yes, me too.

Int.B: And if you delete the advert they will ask please can you tell us why you decided to delete this advert? They can even find the time to ask for your feedback! I mean what kind of people actually feedback on that...because it's absurd...But if there is that button it means that people are using it...So there is this algorithm that know what you are watching and knows what type of emails you are receiving (and sending) and just lately I am receiving advert all about M.A courses and online courses and it's...Oh! My goodness...

NRG: It's Big Brother...(Ha)

Int.B: Yes. (Ha, ha) it's exactly that!

NRG: You see that these are all economical...they are all marketing tools. If it goes ideological and not fiscal and it wants to bend the world in a certain direction let's say because of climate change or not climate change or because of fascism or communism or whatever it could...Because of the power they've got...

Int.B: So you don't have to say anything negative...

NRG: Hence why nobody bothers to read the terms and conditions of Google or YouTube...The terms tell you exactly what we have been discussing...It tells you it will mine through your emails it tells you it will follow every click of your mouse it tells you it will track your YouTube use and it will recommend you things that it deems fit with its algorithm of the week that you will like. It leads you towards marketized videos...It will tell you that...But when we want to use YouTube...We have to do that I agree button...And whenever you get a free App, as if, you are immediately faced with the I agree button, when you agree it opens you to all manner of information loss...Fantastic must have apps that are loss leaders their actual purpose is to relieve you of your data and sell it on to interested parties...next thing you get...'Have you been in an accident lately!'

Int.B:...What is the most difficult aspect of selling? It is knowing what the guy wants to buy...Or building the image making you believe that you actually need whatever they are selling...They have all this information even before they are taking it because they are creating it! I think we have been living in an era where we think we have been given this freedom of thinking and behaving...but it's not...We have been given this illusion that we are very happy and that we are in control...like you know it's not...Like in the case of education I f we have a child here in this country and I work as I work and my wife works as she works...I already can predict what that child is going to be there are certain choices that I will not be able to do and that's not freedom...

Because that child will not be able to go to a fancy private school to begin with...because the social division is really quite strong and it's very well kept. And then there's the success stories, that they like to play and they like to advertise...that's the one off...

NRG: The majority of people are...

Int.B: Everything is making sure that certain people stay in a certain way and others be happy staying as they are...

NRG: So giving all the keys to all the locks that you might have and your supplying them with all the bricks to build the wall to keep you where you are!!

Int.B: And the beauty of it all is that the very people who might even think anything else, like you, and me are complicit with it! We are actually a part of this beautifully orchestrated thing. This is why I always feel strange when I go to the pub and see the man with the tattoos and his beard and tight jeans...thinking he's got it all but everything he is doing is what he should be doing!

NRG: It brings a whole new meaning to the World Wide Web...because that's what it is and we are in it...And the Spider is Google!!

Int.B: That's why there is so much effort on the social media because it gives you this sense of being followed of being important

NRG: But you're trapped in your phone because you can't be of it

Int.B: That's the thing If you turn it off you are a loser

NRG: You didn't reply...so that's it

Int.B: If you are not on Facebook or Tinder you need to have real friends...people who like your real beard...

NRG: I think we've got back to Horkheimer and Adorno with technology being used to control other humans by other humans...It seems to be the case...And if it gets into education and politics...

Int.B: Are we really technology to its full extent in music? And I would say no! I think we are just using it 5 per cent because all we are using technology to do is replicate things that we already have...and at a cost. Because now I can create the illusion that everyone can be a producer...so everyone can go...Ah! I want to make a record ...I just have to buy Logic for £150. Instead of one person buying a studio for £500,000 you now have 1 million people paying £150 for logic...and that's clever...And you have got the replica of the condenser microphone you've got the replica of the Marshall amp...OK. you've got everything there for £150...does that make you a musician or a producer...No! But that's how they are using technology...Are they giving you a software that says 'Now you can make a new sound' something where you

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can combine and create something completely new...something that you cannot do with what you already have...that would be interesting to see

NRG: They are probably holding back technologies

Int.B: Top musicians might have access because they can afford to go in that direction ...but otherwise...you end up sitting in a room looking at something that you could have done before...

NRG: Anyway...let's call it a day...it has been a long week.

NRG: The time is about 15:01, 16th of December 2015. It's interviewee C = Colin

Int.C: Yes.

NRG: Interviewee C. heard of Music at an Inner City School (ICS), all of this will completely redacted and will never be used in its visible form. It can't be. So the basic view, and this is what I am looking at ****, is what are the learning processes and underpinning values of digital technologies made in YouTube in relation to musicians and their practice, their practice being as teachers really. So... just couple of jobs at the beginning, names we've got and your email is gonna be ***** and it's at ICS, no problem. What's your main instrument *****?

Int.C: Piano

NRG: Piano. And what age were you when you started to learn?

Int.C: 5 Years old

NRG: 5. Wow; Current age now?

Int.C: 47

NRG: Okay. That's a long time of playing the piano. Did you learn informal or formal notation or a cross between the two?

Int.C: Formal

NRG: Formal. Okay. Profession pre-2005?

Int.C: Teaching.

NRG: You were still teaching, great. Profession post 2005 still teacher, great. Have you adjusted your privacy settings on your Google accounts or your YouTube account?

Int.C: Yep

NRG: Brilliant. Adblock on for yours?

Int.C: Not...Block on. I've got two different accounts. So I've got one account for school and one account for my own

NRG: You've sorted them both out, great. You do a blog, maybe I think you own a blog but you spend a lot of time lurking as well as doing the two things. What's your percentage if *Ad hoc* usage in a lesson?

Int.C: Very small if any...

NRG: Against planning. I'm thinking of being occasionally distracted by the right hand thumbnails and you think to yourself "I've not seen that before"

Int.C: Very rarely

NRG: Very rarely... because you looking at safety aspect?

Int.C: I don't use YouTube as such. I would use YouTube in my planning before a class arrives and I would embed that into 'Prezi'

NRG: Okay

Int.C: That's where I would use YouTube. The other time I would use YouTube is a performance or an accompaniment tool for students...

NRG: A backing track or some such...And when you doing your prep. Are you influenced by the hits, the comments?

Int.C: No, I don't think so

NRG: You know what you are looking for

Int.C: Yes, I know what I am looking for. And the only other time I'd look is because similar videos that might spark it off!

NRG: And when you're prepping, do you ever get curious on the right hand side or do you punch in or you see something and you go on a little meme journey. See where you find yourself?

Int.C: Yes. Just seeing where the music might lead-to

NRG: And you end up maybe here with things

Int.C: And I might use something else

NRG: I mean, that to me is what the interesting part of YouTube is. That's why it's interesting whether or not you've adjusted your privacy settings because if you got a link between what you've viewed in the past. So that's interesting but the meme journey can bring you to places unexpected, sometimes good and sometimes not. But it's worth the shot I suppose.

Int.C: Most the material will come from...sorry, if I approach YouTube, most of it though will come from a Google search or search, click on video and see what comes up and then looking through those...

NRG: What's on offer

Int.C: Yes. More of that than I would say anything that YouTube offers me

NRG: You you're still locked into the Google world of the website

Int.C: Yes

NRG: Okay. Do you consider yourself intrinsically or extrinsically motivated when it comes to music and teaching? You feeling the pressure from outside or have you got drive inside you that wants to search things out?

Int.C: Yes. A drive inside

NRG: It's from within.

Int.C: Yes

NRG: Brilliant. To what extent do you put your professional and personal personas, musical personas that is, separate or can you?

Int.C: I can. I don't really keep them separate, I don't think.

NRG: So you are a whole, whole package?

Int.C: Yes. I think so. So that even with the online music, sorry, even with the online homework that I have set up, there are direct links for students to access my compositions because I think it's important for them to know that I am a musician as well as a teacher.

NRG: So is the music the whole personality?

Int.C: Yes

NRG: You are a musician and a teacher.... so ultimately, it is all linked together.

Int.C: Yes

NRG: Okay. Have you ever used, maybe for your personal use or if there was no value in it for you as a musician you wouldn't use it in an educative sense...but have you ever used YouTube to highlight and or solve music problems? Theoretical, practical, or issues where you've wanted to see an expert or absolute virtuoso opinion?

Int.C: Yes. Just tutorials or logic, anything that I need to find information about from If I' stuck, I always go to YouTube. We did some interesting work once, not that long ago with the Queen Mary University about YouTube... and they studied us for a year on how we used technology. It was a doctorate or masters student, just kind of observing the teaching for every year group. He went back, got an email three months later. And He'd written a program, which allowed students to watch YouTube and upload as it would then, as it was playing give them the chords of songs. So that's an example of where we've used it creatively but based on something that someone's kind of brought in... So that was really useful for chords shapes and stuff like that... but also as tutorials definitely.

NRG: So gets us to the next question, what's the split between the audio and the visual? How is the visual important for a musician? I mean looking at YouTube of course especially for the kids.

Int.C: I think when I teach, I'm aware about students who are visually stimulated and then there is those that are stimulated by audio. So both are really important... There might be times where we would not...if I am getting them to focus on instruments for example, on the sound of instruments, I might not have to necessarily not show them what they look like so I might not have the screen on. Does that make sense? Or then again I might just use Spotify or something...

NRG: Cos they are pretty visual, these kids with their phones so they seem to need the image.

Int.C: Sometimes it's good to not give them the image because actually, it challenges them in another way than listening to things perhaps differently.

NRG: If you shut down the visual, close your eyes and listen, it's a different world.

Int.C: Yes

NRG: How would you best explain possibilities provided by new technologies like YouTube within music education to let's say your new BTs or your new entrants to the music teaching profession?

Int.C: The use of technology for us or the online technology is for me anyway, is paramount to engaging students. So one of the things that we use it a lot for now is engaging them when we don't see them. That's one of the problems as a music teacher, we only see our kids once every 2 weeks. Now, I can set my kids written homework but...It's not going to mean much to them...whereas if it's online and they can watch a YouTube video or they can listen to something that's got a bigger impact so I think everything that we do... we've got a lot more that involves technology so feeding back, gets feedback. Somebody coming into my department, I would encourage them to play embrace it. (Alarm rings)

NRG: How would you quantify the value of YouTube as a music education platform?

Int.C: I completely value it. A number of students that come in, they say "look what I can play sir" and they play something quite complex and my first question is "how did you learn to do that?" and they say "YouTube". You know, technically, it might not be quite right ...but actually, pretty often, more often than not, technically, it's correct. Lot of our guitarists, rock guitarists are learning the riffs. I think particularly guitarists and keyboard players seem to use it. Keyboard players just get these shapes, they can see the shapes.

NRG: See the fingers

Int.C: Yes

NRG: And the split screen with the guitars the right hand, left hand.

Int.C: Yes. That's what is available now, the free tutorials... are fantastic.

NRG: Yes. Can you remember when you first used YouTube for the first time? Clicking on it when the rumor was around that there was something like this.

Int.C: I can't remember the first one but I kind of remember bringing it into the classroom and when it became readily available in the classroom. When we got these interactive whiteboards, the impact...was almost instant. You were engaging kids straight away; the kind of material...and the access to the

range material that you had, maybe you were able to make it more relevant, but at the same time, it was quickly switch to something that was out of your comfort zone and yet they were still comfortable with it because of the medium. so you could play a baroque piece then you could play something that was you know....

NRG: Thunderstruck

Int.C: Yes. You could switch between styles really quickly, maybe because of the medium, they are not...they are listening to it, they are engaged in it... I can remember when we got this kind of set up...thinking Wow...Yes... That's amazing!

NRG: Yes, it's important and I think you've kind of answered this one. But do you follow your instincts when you are live in a classroom or do you kind of keep it more locked down which I think you do really, sort of pre planned approach?

Int.C: It depends on what the lesson is. There are so many classes....I say it depends because I can think of this week for example, I had a group and I completely went....it was planned but I was looking for something and a kid said something and we found it. It's called Instant access so that was completely off line and it then took us to other things. We were looking at Brass music actually and so we looked at Canadian brass, we looked at another piece, so a really good learning tool. It wasn't always... in my mind quite often it is structured... and it is planned but there are times when ...

NRG: So there are little meme journeys sometimes that are *Ad hoc* in class. Maybe they are older children, small groups, 4 or 5.

Int.C: The Key Stage 3 and younger kids, I tend to not be as much... in order to make it more manageable. But if I am working smaller numbers or older kids, I find it easier.

NRG: So presumably they bring stuff to the table so it's much more of a symbiotic thing going on. Brilliant. Do you upload stuff? You do upload stuff don't you?

Int.C: Yes so we set them homework and that's where the department website is unlisted and there's this whole thing about privacy that kind of thing so we are completely aware of that.

NRG: Okay. So I think you've described typical ways or a couple of ways that you use YouTube in aligning music communication in a classroom. Can you think about something that you've done, any that's a creative use of YouTube that's only impossible because of it (YouTube)?

Int.C: Yes I think... the idea of students reflecting at home on their own work using YouTube and it's the simplicity of it for us, and the time saving way of doing it. So just simply getting...going to YouTube capture, film the group, it uploads it to my website. It's linked to my doc that's already in my homework site so within a lesson, I could have filmed them, I can be have my home work site up and I could be thinking about I'm gonna do. So at home...they'll go home, download and watch and listen to their own performance....

NRG: big biofeedback.

Int.C: Yes and the results...it's quite marked... I think. It's quite obvious what was being done in class previously... because often, that reflection process is 5 minutes before the end of the lesson, we've got 5 minutes left... we've got to do this reflection because we will have to do it... right (Interruption from

announcer)...the thought process, that time to think just wasn't there... but at home, there is... And more often than not, the work is much more in depth.

NRG: And when they bring it back, they've got a lot more to give.

Int.C: Yes. Completely

NRG: What do you think YouTube strengths and weaknesses particularly within a Key Stage 3 lesson are?

Int.C: Well, one of the strengths obviously is the amount of material available. One of the weaknesses is technology itself isn't you know...the technology that you use that might not necessarily be YouTube and YouTube is a part of that so if something is not working in the school, the technology is down. Maybe, I think, a couple of times, I've seen student teachers teach and they have not looked at the material and it's inappropriate. I think knowing what you're actually showing and I know that if you are following that journey sometimes, you can stumble across things. But actually, you're got to assume...take responsibility for what you are showing them... It's making sure that it's appropriate even the comments, making sure that if there's comments there, like in case where there are young children watching and the comments are inappropriate...

NRG: Do you read the comments?

Int.C: I don't. Well, sometimes I do depend on what the content is really. If it's a tutorial (Interruption from announcer)...it would be in a Prezi so you would have the YouTube linking it up and you download so I don't think you get the comments. So we don't often see the comments.

NRG: Here's one for you. What do you think the future holds for musicians and music educators within an increasingly networked world as these things start to get more ubiquitous and faster? What's your thoughts of where it's going to go?

Int.C: ...I hope...I hope... that there will be more acceptance...as a medium...

technology as a medium of musicianship (Interruption from announcer)...I suppose I'm slightly concerned and you can look at education where it's kind of almost heading backwards in some ways. I know that we are moving forward with technology but there seems to be a push backwards with where music lies.. and if it becomes cut or becomes something that again is only for the elite or for the few, then technology is pushed again to the side and it seems it's seen as not real, not real music maybe, if you know what I mean. What I would like to see is where it is an art form and it should be treated as an art form. So if you're doing DeeJaying with YouTube or Spotify then you are just as natural a musician as somebody else... even though you got there differently but it's valued, it needs to be valued the same way and I'm not sure that it necessarily is.

NRG: Do you think it's pushing people back to more aural learning you know with the 'Esme Burns Foundation' pushing people towards ears as opposed to reading notes?

Int.C: Possibly. It's useful for and the type of students we get. We use YouTube to teach notations and it's fantastic and kids learn them. It's fantastic some teachers make videos about music notation and kids learn them... I don't know... As a musician, technology, so I will embrace it. So I'm always looking for new avenues and bringing it into the classroom. So the i-pads and then there is this DJ decks I brought into ICS...It's looking at ways of engaging students and making them feel as though they are valued musicians using

technology just as much as someone playing the flute or something. Where's it going? Who knows?

NRG: Creativity is a big buzzword at the minute...in all sorts of areas especially in education. It's the next big thing, it's the big marketable thing (Interruption from an announcer)...when they put stuff up on YouTube and you got that little meme journey, what do you think the relationship is between all this amount of history, this music archive that's up there and creating new music from new knowledge through it?

Int.C: Well. Well it's almost being able to look backwards to be able to go forwards isn't it? To be able to draw on historical, to connect things in a way of delving back into the past to enable you to move forward... I guess, in many ways. And students who come to us now, having listened to the artistes from the 60s or 70s, some really good funk and soul stuff, they might not have had access, so they take journeys themselves...so it's interesting to know where they are going. I suppose in some ways, they are using that, like sampling you know. But they are not just sampling it; they are using it in new ways.

NRG: They are re-contextualizing it now and bringing it into their world and they are creating something new and that for me is beauty of it.

Int.C: Maybe like neo-classical composers...somebody who is looking back in order to go forward, taking the past with them.

NRG: But that archive is so quickly and readily available and unexpected. You can sometimes find something you weren't looking for and that for me, overrides the algorithm no matter how precious it is and what they are pushing. I'm thinking that the human creative spirit can sometimes see things that even the algorithm didn't see and connects them to make a brand new thing that can push education and push music forward. I think you could agree with this because that's where I'm going.

Int.C: Yes, completely.

NRG: We go to the last one here. What would your life as a musician educator be like if your access to YouTube just disappeared off the face of the earth and its capabilities just wasn't there? How would you get around that?

Int.C: If I look at what we were doing before YouTube so it was lots of tape. You purchase lots of tapes and CDs. It was a lot of listening and we did a lot of...

NRG: Boom boxes, Coomers!

Int.C: Yes. We would still be listening and listening is an integral part of the learning musical process. It would still be part of that and I have to look at different ways, supposedly still images, which I know that's how we used to do it. You put an image up on the slides...

NRG: And projectors, overhead projectors

Int.C: Yes. I don't think I would necessarily change how I now teach in terms of we always start with singing or some kind of physical warm up. That will still be part of it. It's little things like students come in, it's more often than not, YouTube playing. I come and I look at that and go "that's pretty cool", the spark. So I'll have to think of another way, for example, getting them to spark their passion for music.

NRG: Of course if you got something on the TV, or an event in the world, next day you can show it. It's instantaneous so it needs to be connected with the

world. Star Wars tomorrow night at the premier, you will see them and you might pick up something and maybe use the theme. You have the context bang in the now which is very interesting. Do you think there has been what could be a termed a Kuhnian paradigm shift in the change in the way that music's been taught since the Big Bang 2005?

Int.C: Yes. I think so

NRG: It seems to me that the way it's shared and the way it's delivered and the speed and the ubiquity of content, it has to be. It's going to change massively.

Int.C: I think it just happened to be that coincidentally, that was when we were looking into our musical features work as well, at the same. All that seemed to happen at that time and I'm sure one thing from another, the Lucy Green work that whole informal learning is tied up in there. Got tied up in [interruption from announcer]...it's bringing it together. It's not just an isolated thing that happens, you know, something completely different that's not relevant to what they are doing at home. It's all about bringing it and tying it together for our students. So Yes, I think there was a big shift for different reasons.

NRG: Yes. I'm not so sure maybe the beginning teachers will be able to tell me if they are actually teaching it. I'm not sure they are doing that stuff. So it looks like it's a positive catalyst for novel music education practice and musicianship. It's the affordances really of YouTube that I'm going be looking into. It opens up areas that might not have considered and despite your experience, do novel things appear?

Int.C: Yes, completely.

NRG: So you then utilize your experience and click it together with something. Then you got two things that you didn't expect to make a third.

Int.C: Yes. In the office, it's like "have you seen this YouTube? Have you guys seen this?" Sharing and practice and good practice can get you a good video. It can get you a good clip, something that sparks. There is many examples of stuff that somebody has found and shared and say "have you all seen this?" We all look at it and say "that's fantastic". It might be a vocal group doing a rendition of something. It could be anything. It will be hard to imagine....I don't know what we did before it...but I know we did do stuff before it!.

NRG: Well I know. I won't be able to take George Truman slip that lovely melody and link it to when 'I get no kicks from champagne' because the melody is the same. And to be able to flip Frank Sinatra to a minimalist composition instantly... and they get it. It's invaluable to me and it is a big change but you have to see it. You have to see the affordance. You have to see it as an educator so that takes practice. I think we are more or less there. Take your turn

Int.C: I'm not sure what time I finish. I'll see you in the office

NRG: It's great. Do what you can and let me just. At what time we finish, It's 15:28 finish

Transcriptions Ed.D December 16 2015 London interviewee D =Derek

NRG: OK. I think we're recording... very good...smashing...so let's pop that there. So you've got your consent form. Yeah great... so all I'm going to need is today's date twenty fifteen. It's the sixteenth of December. Nearly Christmas and...and your name is... it is not going to be used be used it's all going to be redacted but just so I know whilst I'm transcribing.

Int.D: OK. My name is Interviewee D

NRG: ***** Inner City School (ICS) email will be *****

Int.D: Yeah *****, no dots.

Int.D: *****at ICS dot com.

NRG: OK. All right, so instrument, what's your main instrument?

Int.D: Electric Bass

NRG: Er... Electric bass. And when did you begin learning that?

Int.D: I was about in fifteen...

NRG: Fifteen... and this is all so confidential...but current age now?

Int.D: 39.

NRG: 39...so you have been playing a long time!

NRG: When you learnt was it informal by ear, or more formal or did you go for a blend of the two?

Int.D: Ah, I started learning, well.. I started learning the guitar at the same time. So I was given formal guitar lessons but informal bass lessons. Because I was in a band with a guy who was a really good bass player and I was really impressed.

NRG: So you were using both sides formal informal using your ears and you of them whatever.

Int.D: Yeah.

NRG: Stealing stuff from people watching the fingers and all that business. And profession pre- 2005...Were you a teacher then or?

Int.D: ah, two thousand and five. I just had just finished a job working on a radio as a presenter on a digital radio station. I was also working, as we say... what you call

it... distributor...a record distributor as well.

NRG: Great because that's two thousand five when YouTube kicked in big time...and I suppose post that... in two thousand and five presumably you started thinking about teaching music?

Int.D: 2005-2007 is when I began my PGCE

NRG: Brilliant. OK... So and then you were in there... Just a matter of interest at home have you adjusted your privacy settings on YouTube or Google?

Int.D: Um.

NRG: Or not chosen to?

Int.D: No... No... Not on Google I think, I've done a few bits and pieces on YouTube but I couldn't tell you exactly what I've done. But I know that every now and again I fiddle around with cookies a little bit

NRG: So it's still more or less running as it would...so have you put an add block on?

Int.D: No I don't feel it's necessary to be bothered...

NRG: And at school? Is it a joint kind of thing or do you log in as you when you're using (The Internet)

Int.D: As you login you have your own profile on the network. And enable you still get all the stuff you need...but you still get adverts...

NRG: OK... simple. OK so it's the same stuff. And you're much of a...Lurker or an up-loader or do you do a bit of both?

Int.D: I upload stuff through school. You know if to set homework...and that's all I do...

NRG: OK.. So... the rest of time you're using it to look through (browse).

Int.D: Yeah.

NRG: Here' a 'biggy', *Ad hoc* or plan? Really when you...say you are going to use YouTube in a classroom where you... just to have a look and see what's available...may be a student might suggest something or do you always planning ahead and embed it make sure it's bomb proof before you run it.

Int.D: Ah...I always try to play it first... It's for instance Indian music... I'm never going to get the likes of Ravi Shankar to come into my classroom but there's plenty of videos of him playing online so I use stuff like that. If I wanna highlight how a particular instrument is played.

NRG: Yeah

Int.D: then...I could bring it up (on YouTube) you know that and these are instruments that we don't have access to...in the department and we don't have people who could play them in the department...

NRG: OK. So you look up at stuff like that...

Int.D: Yeah

NRG: Are you influenced by the, the hits or the official video or the comments? Does that make anything to you know?

Int.D: No...I don't really want to bother with that stuff.

NRG: OK. And the right hand side and those thumbnails that they put up there by the people to tempt you...do you ever get tempted and distracted by those on the fly? When you're in the room. When you've started it but if it looks new and looks good and you'll go with it and see how it looks?

Int.D: Yes...but No, Not in the class room

NRG: Not in the classroom?

Int.D: No, because I don't know what it is.

Int.D: If I see something and I go Awe! I'll try to make a mental note or write it down later... You know I've accidentally played the video of a song and it's not the clean version and it gets to the 'F' word and you go 'Aagh'. You know it's that that feeling of just Oh my gosh you know. And then I mean it's just the odd naughty word in videos you know. And I can't imagine what other stuff is up on YouTube. (20 seconds of examples.) ...But imagine the Ridiculous amount of nonsense that is on YouTube

NRG:I know you could be there forever couldn't you? Yeah, I wish I could sometimes resist going for some of those unchecked videos! Do you consider yourself intrinsically or extrinsically motivated? Is it is it things from the outside the push you to teach the way you do is there something coming from within. When you looking for stuff. That's...

Int.D: When I'm looking for stuff...I think it's extrinsically... from the outside. I am not an expert in world music...so I need to find resources that are going to support me...You know and I want to absorb it a little bit before I teach it...

NRG: So, just wondered if you, as a personal, private musician and your professional job as a musician...Do you try and keep them separate? Or do you think you think that there's no way you can because it's just... it's just what you are?

Int.D: Yes, I don't think that you can keep it separate... I mean when I was when I was in a touring band... I was a little bit concerned about it then because I didn't

want kids to see videos of me on YouTube...running around...and stuff like that... but now it's about...well it's just part and parcel...because you've always got experiences that you bring from playing which you bring into the classroom. And *vice versa* I suppose...

NRG: And do you think YouTube...since it's come out that has helped you technically as a musician or have you found things that have. Or have you found things on YouTube you would have found difficult to find or that you have found quicker or...You may be misled of course but were there any jewels that you've found there quickly?

Int.D: Yes...Definitely quicker...videos of top class musicians...doing whatever it is they are doing which as a practitioner in the classroom and a musician I would love to be able to demonstrate a lot of that stuff myself of myself... I can always get access to a guy playing stuff, which I have a fair understanding of but I can use it as a resource for my teaching.

NRG: Right so you do use it...and for the kids as well you're going to look at theoretical practical stuff on YouTube that is just gets just really convenient like Ricci Adams theory.net or things that just work and...

Int.D: You can say.

NRG: Great. Just a time check at this point. 14:47...OK. What's the split really between the audio and the visual? I mean you said earlier on that you might want to go back to Chalk and a blackboard. How important is the visual?

Int.D: Don't believe everything the guys tell you in the office (Ha, ha) I think and with this generation...the visual thing. It's so, so important...because if you try to get students to listen critically. Just by playing the music you can just see them struggling...you know So, we embed homework videos on our website and we play them back to the kids so that they can remind us of where they are ...and what I would do is put questions up on the board saying... you know...How has this Group used texture and how can this group's piece use dynamics... and so I put these questions up on the board while I'm playing the video out of my computer here and I might not pay attention to what I'm doing and leave the YouTube clip playing the kids won't be looking at the boards they'll be looking at the tiny computer screen for they always want to see themselves or they want to see their mates from the class. So...Yeah...This is Generation have a hard time really processing things aurally...

NRG: So it seems that the audio and the visual have almost come as a bundle they seem inextricably linked and locked into this generation...

Int.D: You know if you watch like kids playing and watching guitar tutorials. A lot of the time you didn't see the guy's face not just his hands and the neck of the guitar...right?

NRG: Yes...and then a couple shots really of the right hand and the left hand...

Int.D: different and a different angle...

NRG: everything you need to kind of lift the information. Brilliant. Yes...we have done that one with the metrics thing...Do you ever really read the comments? Below the second line it gets bad...

Int.D: Absolutely... and to notify the on the rare occasions where it's like about something I'm really interested in...or I have just watched a concert you know that I could go to or something like that and I read the comments. And I wonder if they were at the same gig?

NRG: And that's definitely something that you could not use in an educational context...OK let's move on so how would you best explain the possibilities provided by new technologies like YouTube within education to new entrants to the profession?. And you know what would you say. Because there are some people, Luddites, who say don't go near it...what would you say? Get on Board...not get on Board?

Int.D: It's a limitless resource only I mean...for want of a better word to describe it. And I think that to not embrace it. You are to be severely prohibiting your ability to progress in as a musician and as a human being...and that also people that you are teaching...because this twenty five thirty people that we are teaching they just look at the world differently. You have to put yourself in their shoes a little bit...and this is how they absorb a world of media through... you know through video streaming so... to not include it... I couldn't teach...now. And I have the level of understanding of the students and have the breadth of exposure to different genres of music...Without YouTube or without any video streaming...you know I remember when I first started teaching just after YouTube started... I used to use YouTube just to have music playing in the background rather than using it as a teaching resource or teaching tool. And still back then I remember thinking how do I find out who plays a certain instrument and how do I get them into the classroom...It's just a huge goldmine of resources...and information...

NRG: So do you think, because you see it is valuable to you was a musician then that's something that you want to pass on to this generation who are coming through for teachers as well as a students because you can see the value in it because of the knowledge you've got. You can learn the rules...and you know what's good and what's not good.

NRG: So from there you can cherry pick some of the Marvelous things out there and leave the dross behind. So you're a facilitator of people to navigate YouTube You see you see that here. You seem really pro?

Int.D: I think in terms of students on their PGCE it's getting into like you know you can click stuff in the right hand thumbnails. And you find stuff that's a fantastic

resource that may or may not relate to what you are teaching...

NRG: So following that thumbnail thing with the right hand side column. It's almost like a YouTube meme... where you kick off...where you didn't want you to go and then you just go...Oh! Tonic sol-fa....

Int.D: Yeah.

NRG: Then your experience...What's called crystalline intelligence crystallizes all your experience comes in to the fore and you think I can connect this with this...Is this is how you work?. You're working the right hand side. When it works well.

Int.D: yeah

NRG: Also it's about if it works badly...then you go...No!

Int.D: If you click once. It's good news then you click again...and If you get past two or three suggestions and you are still engaged... It's really good for me like you know like in the past there (2-3 side bars) and just getting into complete and utter monster...

NRG: that's the thing with Web 3.0. If you're a teacher to be using it for teaching all the time it's going to push out stuff for whatever the algorithm, of which nobody knows, it may well help you along your journey. Or may not as we all find out. Can you remember the very first time you used YouTube?

Int.D: No chance...It was so long ago...

NRG: So I was a curiosity now we know. We're going to you should not punched in two thousand and five I was in Haringey and put U-Tube came up with a tyre company in Michigan. So then I went on to the very first thing that was posted was the founders zoo clip. Then I punched in Stevie Ray Vaughn...and then suddenly...It was.. 'you're kidding'. But you can't remember the first time you went on it?

Int.D: No...It would have been at someone's house. Or at a party where someone was playing music or something...

NRG: But you think if you did. Would it be for your own personal musicianship or for your professional practice or both?

Int.D: It would probably be for personal use first...

NRG: yeah. OK. Great, great... Going back to the right hand side again what do you think is your balance between Rationality and intuition. When using YouTube in situ... in the room. You know what you should do like you said you should pre plan you should read sure there's going to be nothing but occasionally you've got you've got an intuition that...maybe ...are you still going stay clean on that one

Int.D: Yeah I like I just can't decide if they want to know that. I'd try and keep a mental note and use it for the next lesson...

NRG: I mean how much time do you think you spend on YouTube as opposed to other online media where does YouTube come in your world of social media sites e.g. online musical Spotify etc.

Int.D: Twenty-twenty five percent may be a quarter of the time...

NRG: but it is a constant source... their background somewhere...during the week...

Int.D: Yet made it easy or even they listen to stuff. Yeah. You know the difference in a Spotify it's really, really slow on the uptake it takes it takes a long time for tracks to pop up on Spotify whereas on YouTube it faster and probably the first place to go to if I am researching music...

NRG: now me too so it's very good and we can you think of the. I mean interested in that quirky like thing like thing like just a little more you might play Jaws with Nanny McPhee soundtrack in the background where you can juxtapose things. Can you ever recall a creative use of YouTube that surprised you? And educationally effective?

Int.D: No...I'm pretty good and I mean working in the department like I do, do...I can pick up a lot of stuff from the other guys...I mean like ***** spends a lot of time in front of a computer in a dark he finds stuff and I go Wow... I have got to admit I'm not an innovator when it comes to using YouTube...

NRG: But you have up-loaded stuff...

Int.D: Yeah, yeah, yeah, we use that for students to review their work...

NRG: What do you think as teacher really, and I suppose as a musician are the main strengths and weaknesses of YouTube with regards to improving overall musicianship? What are your thoughts?

Int.D: Strengths...you can choose a song I guarantee there is at least twenty plus different ways of learning if you're a guitar player...learning how to play that song...someone playing it with the camera on their hands and there will be someone showing it with the chord symbols as well and someone playing along with music... Whatever style of learner you are YouTube has got it covered

NRG: it's going to be done. Yes. What about a weakness?

Int.D: Yeah. A weakness...

Int.D: A weakness would probably be the association of aural and visual...These two things which are locked together... like I remember being in school and having to develop my aural ability by sitting and listening to music and blocking out

concentrating and listening... There's a big thing for students is that students seem to require the visual stimulation whilst using YouTube...

NRG: Because it is using a lot of processing power on the visual and the audio at the same time and if you shut down this... You've got a lot more going on in your ears...

Int.D: Yeah.

NRG: That's an interesting point there.

Int.D: Yeah that's probably the biggest weakness... because YouTube never comes in a classroom...when I used to put it on full-screen in a classroom...YouTube never comes with just the video...It has the sixteen thousand recommendations and the ridiculous comments and the ads and all the rest of it...so if you don't show it in full screen the kids are automatically distracted (on screen ads)...That again I think is a weakness in terms of teaching and using it as a teaching tool...

NRG: so...considering that distraction it's an interesting thing...if you focus on something a lot... you're not going to be very creative when you're shedding this particular eight bars and you're just in the same bar so whatever it is not going to be creative because focus is the antithesis of being creative. When you look at a YouTube screen...It's the other side of it...It's complete distraction of all it's meant to be! Either the ads... or the right hand sidebar column...it's wanting you to be distracted. And I'm figuring that one thing in the beginning of the creative process you need to be distracted from whatever it was you were doing or your attention needs to move somewhere else in order to make a connection between the two things. So it's a very interesting format the way it promotes this distraction, which...You know kids is the worst thing in the world distracted: 'C plus could try harder'. So I'm looking at that. That's one of the things that I think it is an affordance of YouTube that they're are not aware of... that they want you to be distracted, but I don't think they're thinking they're trying to make people more creative. Think... I don't whether you have seen anybody do... or you've seen any of your students or you've seen something?

Int.D: Yes. That happens on occasion when I'm messing around with windows on the computer...Sometimes kids shout out even before I've chosen the video because there is always the latest music near the top of the screen...So yes...it can be a chore...

NRG: Yes it's got to be managed... it's not Easy.

NRG: If you could put a value on this type of technology exemplified by YouTube...How valuable would you say it is?

Int.D: as a music educator answer it is of infinite value because there is always something which you can find which is useful and as a musician...when I find myself stuck I think...Awe...I might as well go on YouTube...Do, do that, just sit down and

learn how to play it...write it down or something...

NRG: Three or four different people and you get people some can get the 5th bar somebody else gets the eighth bar usually it takes an amalgam of people to produce the definitive version...it can be quite humorous...(Alarm rings, end of day.)

Int.D: so... got to go. I have a form group.

That's it. Cheers... interview end 15:01pm.

(Intercom announcement)

NRG: Right...just a few jobs-worth things at the beginning...Name we have got...Instrument...Instrument what's your main instrument?

Int. E: Erm...I suppose it's voice now...

NRG: Voice...

Int. E: I also play, piano, guitars and woodwind...

NRG: A bit of a multi instrumentalist...which is ideal...for this work.

Int. E: Exactly...

NRG: Perfect...

Int. E: Mmm

NRG: (Email details)

Int. E: Probably UCL.

NRG: At what age did you start learning Music?

Int. E: Oh dear...I would say from pre-school really...but...I was always singing nursery rhymes and going to early (age) music groups...

NRG: Crikey!

Int. E: My mum actually ran one...so...

NRG: So it's in the family...A Musical family?

Int. E: Yes...My parents are both actors...but my mum runs a music group called ****
**** workshop for the under fives...And she started that in 1992...so I used to go to that when I was three years old...So I was brought up just singing all the time...

NRG: Brilliant and that was by ear...Probably?

Int. E: Yes...NRG: And then did you stay informal learning by ear? Or, when did you go over to formal?

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Int. E: I started learning piano and recorder when I was 4...

NRG: And you were reading?

Int. E: Yes...

NRG: So you'd be doing a bit of both (aural and sight reading)...Wow...OK. so obviously there is no pre-2005 for you...That's when YouTube started...AT the moment you are a beginning teacher?

Int. E: Yes...

NRG: At the ***** ...Ok. So this is your second placement?

Int. E: No...This is my first placement...I have been here since October...

NRG:...Nearly there!

Int. E: Ha, ha...

NRG: Yes...just get to the other-side of Christmas! So here we go...have you adjusted your privacy settings on YouTube? Or Google...or have you just left...them?

Int. E: No...not...I haven't...

NRG: Have you ever read the entirety of the terms and conditions for YouTube or Google?

Int. E: Er...No...I have not

NRG: It is worth doing...they are very interesting...but no worries...and do you use an Ad Block at home or here to stop... whilst you're zooming around?

Int. E: At home I do but I don't really make a conscious effort to do it ...it will be because my flat mates suggested it...

NRG: OK. Lurk or upload? Do you put stuff up on YouTube or anything like that?

Int. E: No...

NRG: And these guys here will it for you if it's needed

Int. E: Yes...

NRG: OK. Great...In your lessons...and I know they will be all planned to death but do you ever get that ad hoc feeling whilst you're using YouTube...Which I suppose you do at some points...when you see

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something in the right-hand side column...and you think maybe? If it's a Key Stage 4 or 5 lesson do you ever consider just trying something out? Something that you hadn't planned for...a little meme journey?

Int. E: I try not to...Touch wood I'm quite well organized...so...

NRG: Well you need to be as a teacher...

Int. E: I drop my YouTube videos into 'Prezi' because I don't want them to see any adverts...and anything that could be inappropriate...

NRG: ...Yes

Int. E: So it's always good to make sure that everything is going to plan beforehand...

NRG: OK. So let's say when you're not at school and you're in the safety of your own home and you're looking for let's say two parallel pieces of music or two bits that you can juxtapose over each other...Do you ever then start to have a wander around and look for stuff...Let's say how do you navigate YouTube?

Int. E: Yeah...Sometimes I do that...yes

NRG: Do you get attracted by something and say just a minute I've not seen that version of that before...and it seems to have been just uploaded and you have a quick look?

Int. E: Sometimes...I suppose...Yes

NRG: So when you are on YouTube how do you get...to find what you want...Do you just punch in the name

Int. E: I just type in a couple of keywords that will be relevant...

NRG: And then...do you select...do you then select the clean version...because obviously you will need a clean version...erm..

Int. E: Yes...I take those things into consideration...I would say...

NRG: Do you ever read the comments?

Int. E: Not for things at school...no...if it's something I'm personally interested in then yes...But not for things at school...

NRG: Do you ever add to comments?

Int. E: I have never added a comment to YouTube...

NRG: Wow...what about that right-hand side thing (recommended by previous viewing habits) does it distract you sometimes? Even if you're not

going to use it in a lesson ...not if it's embedded...but does it distract you even when you are working at home? Does it ever take you somewhere where you weren't supposed to be e.g. away from your PGCE?

Int. E: No...actually it doesn't...

NRG: Interesting...

Int. E: No...I'm quite focused!

NRG: Focused...great!

Int. E: It might all change...y'know

NRG: Maybe when you have got this PGCE out of the way...It is a Monster it really is!

Int. E: Yes...everything is just sort of...Just ticking a box...

NRG: Do you consider yourself more intrinsically or more extrinsically motivated? Does it come from within this drive to be a musician, music educator or is it from the outside?

Int. E: Most of the time it's something that is instilled...I had a bit of a wobbly week last week... And now especially as it is the last week before we break up...I'm getting a little bit more relaxed about it all...

NRG: The week before Christmas for a beginning teacher is so difficult...

Int. E: I can't think of myself doing anything but music for a living...

NRG: Do you manage to keep the professional you and the personal you as a musician separate?

Int. E: I think if it's possible to keep them separate it is a good thing...As I'm a singing and playing in a restaurant twice a week and I try and learn new material every week...Especially if I'm learning it allows me to contextualize my teaching...and it is good to build up a repertoire and keep that side of things going...I think...If you can if time allows...

NRG: Yes... Do you ever use YouTube to highlight or solve a musical problem either practical or theoretical...If you need a particular chord sequence or a way to finger a piece of piano music...Do you ever pop on there and look for a tutorial..

Int. E: I haven't done it so far...

NRG: OK. So... do you ever listen to virtuoso musicians for inspiration and maybe something that you might want to steal...

Int. E: Er...only if I want to learn a particular song...then I'll look it up on YouTube...

NRG: and then will you to just one song or triangulate with others and see their versions of it?

Int. E: Sometimes I will listen to more than one version...

NRG: And then you'll pick one and then you'll learn it? Using the clip or you'll search the music?

Int. E: Yes...Probably...Yes...

NRG: OK. The Audiovisual with YouTube...How important do you think it is for students from Key Stage 3 to 5 now that it's ubiquitous...

Int. E: I think it's really important...now...because listening without an image...is a very different experience...first instance if you're watching an orchestra and listening to an orchestra then you can see all the instruments...and that helped when we were trying to identify certain instruments...er...certain families in the orchestra...that was a really good exercise for that so that they could see...strings and see the woodwind as well as hear them

NRG: It's interesting that that divorce between the sound and image of the instrument only came about with the invention of the phonograph...in the early 1990's...before then the only way you could hear the instrument were if you were looking at it, i.e. you were within earshot so you could see that instrument...so there has been that very odd period of time when from the 1900's where you could put a gramophone on and it would crackle its way round divorced from the actual phenomenology of it...the fingers...the senses...And now we can have both...we can have someone playing right there but they're not...in 2D...or we can just have the audio...But I think you might agree that this generation...with there phone culture etc. are very visual...

Int. E:...Oh yes...I would agree

NRG: Which in a sense ...it has gone back to how it always was...prior to vinyl. You don't read the comments...Oh no, you do read the comments sometimes...what do you think the...How would you explain the possibilities afforded by new technologies e.g. YouTube to one of your fellow B.T's who at the moment doesn't use it much? Or they come from a very classical background and they are heading into an urban environment to teach...would you push the value of it?

Int. E: Yes...I think so especially for some children...who have never seen certain instruments and they've never seen people playing music

before...They might have heard it on the radio or seen it on X-Factor but they don't necessarily have any idea how all those things come together...S for that reason YouTube is fairly important...

NRG: The digital archive...I think of it like some kind of crazy digital Noah's Ark...A digital cabinet of curiosities (intercom interruption)...So with YouTube it's not just what was on T.V. last night but it can go back to the earliest Jazz recordings and right the way back to the present...Which is a very useful thing I think...Was there any particular time, although you are a digital native, born into a world of computers, was there any time that you realized for teaching music that using technology would be essential for you?

Int. E: I have always seen it demonstrated here at school and it's encouraged at my (place of study) and when we were planning a lesson to teach to each other we had to include a YouTube example...So...yes...I just been taught that it is expected...And I look forward to them because the pupils always focus on them...

NRG: Do you ever get surprised by what's up there? And what you could do with it? Thinking when I get home I will check this out...

Int. E: Not yet...May be when I've calmed down my psyche...

NRG: But...what kind of value would you put that kind of resource?

Int. E: Extremely valuable...I would say...

NRG: :In this teaching environment?

Int. E: Yes

NRG: Difficult question as you have always seen it this way...As 2005 is when it all started... But have you seen any...

Int. E: ...Yes

NRG: So, are there any observations, curiosities or illuminations that you would like to relate since you been within a working teaching environment...Is there anything you've seen that might be worth including in your final dissertation...These guys (colleagues) are really on it (tech savvy) here by the way... Is there anything that you might, once qualified and more relaxed, want to appropriate and take with you into your next job?

Int. E: Just from using YouTube?

NRG: Yes...just their online stuff...maybe their homework system?

Int. E: Yes...I think the homework is really useful...I'd love to make my own website...I have no idea how...erm...yes but that seems to work.

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NRG: OK. One final question...although you seem pretty rational...What is your balance between your rationality and your intuition when you're working in a classroom? I mean sometimes you go into a lesson with the best laid plans to teach a lesson in a certain way and to get from A to B and get to the plenary...especially for observations...Which almost everything you do is observed...But do you ever get the feeling, and you're not observed, and you just get the feeling that maybe we should go...another way and it turns out good!

Int. E: Sometimes I go off course to demonstrate a point...

NRG: and that's not going off plan...that's just plan B and you can defend that situation if you had to...Well, I think we are good there. Thanks for your help...who's next?

NRG: I think we are off, recording, lets just do a time check on this one and we will get some simple questions out of the way and find out what you know about YouTube and the world of...15:49 pm... 16.12.2015...and it's **** ...

Int.F: ...***** ...

NRG: **** ...

Int.F: **** ***** ...

NRG: **** ***** ...Now that's a very positive name!

Int.F: ...It's an unusual one...

NRG: (email details exchanged... laughing)

NRG: And what's your main instrument?

Int.F: Drums and Piano...I did composition...I would say drums first and piano second...

NRG: At what age did you start learning...Music?

Int.F: Four or five years of age...

NRG: Was it by ear to start with? Or was it formal from the outset?

Int.F: ...Actually...bit of both...yeah.

NRG: And when did you first start looking at computers and i-pads?...If you did at all? Or just for listening to music?

Int.F: ...I'm not sure that computers where for listening to music until I was really around 13 years or 14 years...

NRG: So roundabout then...you started to...and your current age now?

Int.F: Twenty-seven...

NRG: Twenty-seven

Int.F: Yeah...

NRG: So about 1989? OK. 1988...So as you know is was in 2005 when YouTube finally sold out to Google (tannoy interruption)... And your profession...you were going to be?

Int.F: Music teaching...

NRG: and before that?

Int.F: I was teaching music in a school in ***** ...

NRG: Ah...Brilliant...so one way or another you have been teaching music and now you're going to be qualified...Great just a quick one...Have you adjusted your privacy settings on YouTube or Google?

Int.F: Google...my photos are only visible to people that I share them with and my YouTube...Do you mean my YouTube account...

NRG: Yes... have you disabled your cookies etc.?

Int.F: I tend to keep cookies on...because you kind of require them for functionality on certain websites...so I keep them on and clear them periodically...

NRG: And have you read the terms and conditions?

Int.F: (Laughing)...Er...No...

NRG: Nobody has...and they are pretty important...but hey...and do you upload stuff...I know ***** and the team upload stuff for here...Have you uploaded stuff in the past?

Int.F: Yes...Mostly...But not on too much on YouTube mainly on SoundCloud and (incomprehensible) ...

NRG: so mostly personal stuff...So when you are in your lessons, and I know you are a B.T., so you have to plan everything to involve the minimum risk as you can, especially within an observed lesson...But is there anywhere you are preparing your lesson how ever you do it whether you're dropping your work into Prezi, do you ever get on a meme journey, where you see something in the right hand related video bar, and you think, hang on that just might be a slightly better version?

Int.F: Yes...I think quite often...yes...

NRG: And then when you replace with the slightly better version the right hand selection responds and changes and there you see another and maybe there is another choice and maybe you could play those two really different versions and we could get some real educational mileage out of them! Does that meme click ever happen?

Int.F: Yes...A lot...I would think...I think er, I think I am quite good at following key words when it comes to finding other things especially when it comes to world music there is a way for searching for Indian music that is far more effective than simply typing in Indian traditional music so I've found a really lot of good stuff from that kind of process...in fact a lot.

NRG: And you find it kind of creative...that process? Putting together disparate things?

Int.F: Yes it is creative...but it's draining...very draining...but it is creative and you end up with a result that you didn't expect...I suppose.

NRG: And that's the beauty of a digital archive that extends almost to the beginning of (recorded) sound and vision...and you've got it like yesterday, for instance Star Wars will be all over YouTube tomorrow morning, you know that thing tonight so you have got a huge archive to play with...Brilliant! OK. Are you ever influenced by how many hits something has had? Like 2 billion hits!

Int.F: No! I watch things that have about 2 hits...Sometimes I find quite interesting stuff...a day ago I was watching something that had just 20 hits...

NRG: Comments? Do you ever read or add to them?

Int.F: No (Laughing)no, never ever...

NRG: Yes I suppose within an educational setting you would want to cut the board off at that point...after the first comment it gets to be a bit crazy...

NRG: So...Would you say the right hand side thumbnails...

Int.F: You mean the options...

NRG: Yes...are they a negative or a positive distraction to you?

Int.F: Yes... I think it is useful (long pause 10 sec) Yes...useful in that a use...

NRG: useful in that it pulls you in a direction that you might not have intended?

Int.F: Yes...yes...Like I said I think a lot of my links come from that type of thing...because the types of people that upload traditional types of music ...often like...are very obscure people in very obscure places that don't have any kind of following and you have to have these kind of linking things...

NRG: So you are going to need that push to it...

Int.F: Yeah...they kind of exist through something else..

NRG: even though we don't know what the algorithm is we know it is connected to what you have previously watched...which for you is very useful...If you've got an esoteric clip the last thing you need is to find (tannoy interruption).

NRG: That's good so...moving on. Do you consider yourself intrinsically motivated or extrinsically motivated as a musician? Is there something burning inside that leads you to teach and play music? Is it helped from the outside?

Int.F: I think about...intrinsically motivated and think about where my ideas really do come from they do seem too...yes obviously I was saying...yes...kind of ...YouTube gives you that kind of broader resource option I think when I get an idea I think it's because I've created a connection myself not because YouTube has created one for me...

NRG: So what you've got is crystallized intelligence experience that your linking with your fluid intellect through your meme journey...So what you're doing is seeing a couple of things that are meaningless in themselves but your third bit in your piece of hard drive you're creating that bit...Is that what you're saying.

Int.F: There is that...And I think that in doing composition...It is very important why doing composition to be able to make connections with whatever it is...like being able to connect strange things like...er...Like I had the idea the other day of photographing the carpet that

was hanging on the wall as a way of demonstrating parallel harmony in South African vocal music ...Because it was an African carpet and you get these parallel zigzag patterns...I like making these kinds of connections...I think some of it comes from YouTube and some of it comes from something that is creative...

NRG: I think it is good because the archive in YouTube. You can pick the Truman show...then Truman sleeps and then you can get I get no kicks from champagne...it's the same melody and then you've got Frank Sinatra and Philip Glass...

Int.F: Yes...

NRG: and you can play them within an education setting to make them obvious and I suppose that is what you did with your carpets...But that's what I am looking for really in YouTube is that ability to spark creativity and but you need the third category the synthesis of it...You need the thesis and then the antithesis and then the synthesis is an old way of moving...

Int.F: Yes it is old I think...

NRG: Yes essentially it is the way it's the Hegelian dialectic, he came up with that, but it works and then you have Koestler with his bi-association where you take two seemingly disparate things and bring them together bring them together and you get a third thing and that's what YouTube facilitates I think and if you're...

Int.F: Yes... But on a mass scale...

NRG: Yes...and if you are in the world of esoteric music with only a small number of views you are going to be really bringing in some very interesting third elements that you gather out there on your journey yes that's interesting as you are not going down the Beyoncé route with 20 million hits and then see what comes up in the right hand related video column, you would be there all day!

Int.F: Yes... But it's fascinating there are still plenty of connections it does make for you..

NRG: Yes...it would be interesting to know what the algorithm is one day...But they change it apparently, quite regularly ...so people can't figure it out, it is very complex apparently...

NRG: Do you ever use YouTube to highlight or solve musical problems either practical or theoretical or both for yourself or others within a classroom setting?

NRG: Rather like my efforts with a dual flush toilet or taking the back off your Macintosh computer...similarly you can always find someone who has gone

through a certain piece of music or a certain drum technique and literally broken it down into subroutines ...if you've got the training to find it...do you do that at all?

Int.F: Although I do tend to exhaust the possibilities of my thing because I know once you are on YouTube it's Basically a non-stop, unless I go onto YouTube and have an actual intention of actually finding a specific thing out that's when I find it useful... But I tend to exhaust the intrinsic

NRG: So you worry that you are going to get carried off on the yellow brick road and end up God knows where? And you didn't end up doing what you were supposed to do...but if you knew exactly what you want a certain right hand technique or for a roll...

Int.F: Oh Yes... And sometimes it takes a lot of time...

NRG: Oh yes it can often be counter productive.

NRG: The split between audio and visual...Do you think there is a split now or are the two...kind of fused do they need to listen and see at the same time? Or should they be listening to music divorced from an image? What are your thoughts on that?

Int.F: I think that kids have very little patience...it's just the way that young people are...used to experiencing...you know the radio is less popular now isn't it...So I think...So myself I still experience music in it's own right but then again I think that the visual thing is a valid thing to want to have...because it is more real...

NRG: I think you have made quite a good point there as previous to the invention of the phonograph and before wireless and acetate...if you were hearing somebody playing then you would be there! And you would learn by this phenomenological experience of being there hearing it and seeing it and all of your senses...with everything downloading at once and you are actually there...Then weirdly since the early 1900's it is possible to divorce the sound from the player or image and you can make it asynchronous for only 100 years or so...and now we've gone back through 2D or 3D if you have the glasses...back to where it was!

Int.F: Except that it's not as it is still a passive experience when you watch it on television or whatever it is...it is something that you can't effect yourself...

NRG: But interestingly live gigs are becoming the in thing and people are going back to that as opposed to buying or indeed selling CD's or vinyl. So we are back...going round the houses again...

NRG: You don't read comments...so...How would you best explain to a fellow beginning teacher on your course, who did not have much experience with technology, and let's say from a traditional 4 part harmony background and

they were going to be placed in an inner city school how would you explain the benefits or not of technology with an urban context?

Int.F: I think that technology comes in where there is a lack of something...technology is assistive isn't it? So where there is a lack of expertise or a lack of realism or a lack of expertise...or authenticity then sometimes a YouTube clip can bring something authentic into the classroom...But if there was someone who was authentic in classroom I would not want to change them to bring them sort of more up to date or something...yes that wouldn't be for me...You see the thing is with technology once it becomes part of your practice it is impossible to reverse it...Once it becomes part of your teaching practice it is impossible not to be intimately involved with it...And then reliance on it...

NRG: And...should it fail, the broadband goes down, then so do you everything becomes disproportionately expensive or if you have to get through gatekeepers to get to certain sites that were once free...There is a lot of control...

Int.F: Or there is the basis problem of being over reliant on anything...even if it's a very reliable source of information or...

NRG: Or if you are over reliant on a mentor or human...

Int.F: Yes...but technology is not human...so it's that bit less aware of your reliance on it.

NRG: Except that it knows exactly how many hits...and how you walked home...it is pinning you down and all of your movements with the metrics supplied by your Google phone and if you've given permissions to locating apps ...it can even give your position on the globe...where you are.

Int.F: I'm sure everything is tracked now...

NRG: It is amazing...they can track you down and hopefully not sell you something (Laughing)

NRG: what value would you place on it at the moment?

Int.F: Technology?

NRG: Well YouTube more than Garageband or Logic just this ability to have this digital archive available within a room with other selections almost instantaneously or almost anything that you wanted to hear or see...

Int.F: Yes,,,there is two things it adds massive value interns of authenticity...and interns of giving people a sense of being at a concert a sense of being in a place where it would be impossible for that to take place

usually...under normal circumstances and then the other thing I would say about it is it does eventually devalue when there is something very, very available and very, very accessible and something where there is no end to the resource and you simply cannot get to the bottom of it... so it is very difficult to teach with any sort of fixed so it is hard to place a particular value on a particular thing.

NRG: yes I agree...and the resource is constantly being added to...

Int.F: its is very difficult to teach with any fixed notions.

NRG: Yes it's like a stream...than an archive... it's constantly changing...

Int.F: So it's harder to place a particular value on a particular thing ... I guess.

Int.F: When you have just classroom culture.

NRG: Yes, but it keeps the whole thing in the now, as time moves forward and as Youtube moves forward.

Int.F: i don't know about that, I think that Youtube kind of locks people in the past in a strange way...because.

NRG: You can only put in what has already been...yes in that sense it's always in the past, when you see it tonight it has already happened so you're not in the now

Int.F: Yes there is a sense with young people that there is nothing to do any more. That absolutely everything seems to have been done. And so in terms of music so many people have worked with or taught have said 'Oh I sound like Fred Frith or I sound like Steve Reich or whatever...And it's very hard for them to think outside of that because they are constantly aware of other influences...

NRG: Everything sounds alike...and there are only so many chord sequences that everybody has used again and again...Yes that is a downside of YouTube ...Can you remember the first time you ever used it? And whether you used YouTube out of curiosity or necessity?

Int.F: It must have been out of curiosity! It's interesting that...

NRG: Yes, most people don't...But I do unusually...I remember looking up U-Tube and finding that it was a pneumatic tyre factory in Michigan in America...i thought where is this thing YouTube? This was in about 2006 and eventually I punched in the right thing and then I couldn't believe what was happening...Anything I wanted to look at or listen to was there...i thought this can't be real...and it was free... and it was very strange indeed previously you had to subscribe to the Naxos library and you had to pay...And then suddenly

YouTube just blew the whole thing apart and you could effectively watch anything.

NRG: Do you use it for your own personal musicianship?

Int.F: for playing and practicing...Erm...

NRG: Yes...

Int.F: i think just for the sheer ease...I would use it for learning parts...yes i do absolutely.

NRG: So are you more a rational user of YouTube or are you more intuitive in your use? E.g. I'm not going to drift over to the right hand column of suggested media...or to you normally stick to your guns?

Int.F: I rarely stick to the thing that I set out to do...But I suppose I am becoming more disciplined...

NRG: i suppose you have to teach yourself that (laughing).

NRG: So do you think within an educational setting that the preplanned, drop the media in Prezi, is probably the safest and easiest way to go forward with YouTube...Less creative I would venture...

Int.F: well I have done stuff when I have asked the students to find things...Yes so I go and say find some Jazz from the 1930's...but having said that it is very hard for the students to input something into Google or YouTube without it giving them something that they are already inclined to, it is very hard to go into the complete unknown because of the way you input a particular word that is familiar to you...it's like opening a book and you can find something that you've never seen before in an encyclopedia or something like that but with YouTube or something like that they will almost always go to smooth jazz...chilled Jazz...some form of Jazz that they've already got...some sort of concept of.

NRG: And then once the algorithm picks up that they've gone where they've gone...you might help them to get out of it...and you might end up with Louis Armstrong or something like that ...then you will end up with a whole load of Louis Armstrong or that genre. So it's interesting how that second brain that algorithm in the right hand column that comes to the fore isn't really considered by many educators they don't really see the power of what's going on with that algorithm...in fact no one even speaks about algorithms...at all...although it is like a little deity that is directing you from a distance...it is consciously steering you although you are unconscious, mostly of it...My idea is that even despite the steerage from a distance for whatever purpose...I don't know...Could be commodify something...But the creative spirit might just be able to...make connections that even the algorithm couldn't spot. And that's the human bit coming into the triangulation...the

machine...Even though you have burgeoning A.I. I think that this can still see things like your carpets that it is not going to come up with in a month of Sundays! I'm hoping that's the case...but I don't know...

Int.F: Yes...maybe...

NRG: have you ever thought of an innovative and surprising and effective use of YouTube...and you have thought I couldn't have done that without it ?

Int.F: Yes...I'm sure there are reams of time where that has happened...

NRG: Yes...I'm the same really...

Int.F: yes...comedy is brilliant and for other non-musical things...it's amazing how broad it is.

NRG: What do you think the future holds for musicians and music educators within an increasingly networked and interconnected world? Where everything is talking to everything and your metrics are being triangulated every which way?

Int.F: I don't know... But I think that music Education is going to come under the same kinds of pressures that other forms of education have come under...in terms of increasing efficiency

NRG: Performativity...

Int.F: yes and the pressure to assess in short snaps not being able to assess a student as a whole...(tannoy interruption) and to be able to make accurate interventions and diagnosis and supposedly accelerate the learning process...But I suppose technology works in that way and that it is about efficiency...

NRG: And it requires constant data. Whereas sometimes in music you get plateaus where things appear not to be moving for some considerable time and then you get a spike where stuff has been assimilated over time and suddenly you improve...

Int.F: Yes...

NRG: Whereas you're not going to get this with music really just because you play more you don't tend to improve exponentially...I tricks... but it is the assessment tail wagging the educational dog in the world we are in at the moment and this is ideally suited, as you have pointed out, to compartmentalizing and measuring the kettle whilst it boils...it's the equivalent to pulling a healthy plant up to check if the roots are growing! Zero trust. And we are at the bottom of the curriculum pie and assessment and homework

etc. should be proportionate to contact.

NRG: Are there any illuminations observations on the educational or otherwise use of YouTube that you would like to share?

Int.F: The obvious one is the Lucy Green Musical futures stuff...as I've never really learned like that...

NRG: Do you learn like that now?

Int.F: No...when I learn a piece I don't do it from YouTube...Probably should!

NRG: I bet you see plenty of kids coming in with stuff they have learnt from YouTube...either getting it visually or kinesthetically or sometimes aurally...

Int.F: Yes...I have! It would be interesting to see if YouTube could be interconnected by people rather than algorithm?

NRG: Like learning Webs or communities of practice (tannoy interruption)

Int.F: Whether that's a more helpful way and a more ...holistic way...because I think that efficiency thing is a big problem...

NRG: I think that algorithm if you could replace that with your friends the purpose would be more transparent. But we have an algorithm with no moral compass and it is probably designed around money and marketization...So it's a selling thing...

Int.F: well sometimes it is designed just to keep you in and it is not always selling...

NRG: OK. Let's call it a control mechanism of some sort or another...you're being controlled by the very thing that you think you are in control of! Which is a real trick to pull...the medium is the message...i.e. the main fact, besides all the smoke and the mirrors is that you are in the machine...and you are being played in a sense...

Int.F: There is like this feeling that you are dealing with something that is like plastic...and arm...changeable...it's not just content...you are inside something...

NRG: Yes...all you are is ones and zeros and you are giving this data...and the more you move around with your cursor...the more data you are giving...

NRG: Google and YouTube are privately owned and they have an agenda...

Int.F: Is it OK. to function outside of it now...because that's a question everyone always asks...People often say Google...I hate it they know everything that I'm doing...but how do you operate outside it?

NRG: it just mimicking us...we used to offer analogue biological information of who and what and where we are if we wanted now that's being culled digitally...It's the same thing...but with limited control and very little privacy...There is much material about how to get off that grid but even Tor is now used and monitored by Google...

Int.F: Absolutely everything...

NRG: So it's masks and V for Vendetta are the only people trying to utilize the medium itself to control and the medium itself...I think it was the Frankfurt school and Adorno and Horkheimer who proclaimed that the ultimate aim of technology was to enable man to dominate his fellow man! I think they hit the nail on the head! (Short existentialist philosophical chat at the close not transcribed approximately 30-40 seconds)

NRG: Any way on that dark dystopian not (Laughing) we will end this interview...It was good I enjoy it. Thanks.

NRG: ...I am interviewing Mr. *****, newly qualified teacher and expert musician and keyboard player, pianist and choir Master and arranger of music...Er...the thesis title or should I say main question is 'What are the learning processes and underpinning values of digital technology in relation to musicians and their practice' the main title may be 'The Affordance of Distraction: Practitioner perceptions of YouTube and its value as a catalyst for novel music education practice. And professional musicianship.'...OK. ***** what I'd like you to think about is how YouTube has Affected your musicianship since it first appeared in 2005 and if that affected your music teaching in any way whatsoever? Has it?

Int.G: No! (Laughing)

NRG: Somebody has got to transcribe this...there will be a little man in India somewhere transcribing!

Int.G: Will there? All right...(Laughing)...OK. so was that the question? (Incomprehensible) Erm...So I haven't really used YouTube as a learning resource...I've never really gone on tutorials and that kind of thing partly because I haven't needed to as I've done all mostly through my ears and also YouTube came in at a time when I was already playing...I was already playing a lot I already had a teacher and I used YouTube more in the beginning for listening to music and also for watching some of the piano players I was really into ...so at the time I was really in to a lot of Jazz players and I used find videos of them not necessarily to learn but just to hear them because YouTube kind of came in before Spotify and the kind of streaming medias so YouTube was my rescue for music that I didn't have a mp3 or a CD of...So that mainly my main relationship with YouTube...I've also used it a lot for interviews with different piano players and different musicians ...With regards to the classroom I use it pretty much in the same way as I used it, which isn't necessarily as a learning tutorial but as a listening resource...It is a huge resource to show examples of things that you might be talking about I have never...Like I say I haven't really used it for tutorials I have mainly used it for examples. Erm...What else was I going to say...I think as teacher it's not one of these resources that you only have available at school YouTube is not a resource that you only have at school...The kids can have it everywhere, they have it on their phone, they have it on their iPad, so I think the role of the teacher with YouTube is...If it was like a book you can show them which page to read...To try and steer them in the right direction...I think that one of the main issues with it...if they are learning a piece on guitar or whatever instrument it might be is that there is no way of vetting, let's say they have typed in 'I want to learn to play Uptown Funk' drum beat...there is no way of vetting that that drumbeat and whether the guy is working well,

holding his sticks well, playing in time...they could be internalizing all sort of bad habits which I think is potentially an issue.

NRG: OK. What words of wisdom would you offer a beginning music practitioner regarding the use of such technologies as YouTube within the classroom environment?

Int.G: Well there's the obvious one...vet all your videos before you use them because you can obviously end up with the inappropriate...But...I think it's about finding good resources whether you're talking about examples or tutorials but actually vetting them and making sure that they are well constructed and pointing them in the right direction because there is any amount of rubbish out there because any man and his dog can create a YouTube video about something...you know...so it's about vetting the resources before you use them.

NRG: So rather than the words of wisdom if you were to try and explain some of the possibilities provided (afforded) by the new technologies to music education to a new entrant to the profession what would you suggest was the potential for it going forward...YouTube or similar sites?

Int.G: With regards to the classroom?

NRG: Yes...

Int.G: yes well I think it'd like when we went to ICS the opportunities for assessment so ...each music department, their assessment could each be stored on YouTube, on a private YouTube channel videos of all the students playing that could call be stored there...on the channel...I think it could be...if teachers wanted to create...rather than having paper resources for lots of stuff...Teachers could actually do virtual examples of the lesson...sometimes what I'll do is I'll do learning tracks of the parts that they've got to learn...I have yet done it on video but I have done it on audio, and I suppose if you were able to model something is to create your own resources on YouTube that the children can then access in the i-pads so you are effectively teaching that many people in different rooms y'know ..It is still you but you are reaching a lot more people via the i-pads...

NRG: how did you initially become involved with utilizing new technologies e.g. YouTube? Was it curiosity or necessity or did you start using for your own personal musicianship, to which you have answered no, and professional practice or both...I'm just wondering whether you...this spillage between you using YouTube and you playing as a musician in the real world as a music player and do you bring any of that into the classroom?

Int.G: Not directly through YouTube I don't think I don't think that is not specifically through that...I think that there is stuff that I bring in that I have picked up in real life ...but I'm just trying to think of any examples of things that I have seen...I don't think there is particularly through YouTube in particular which isn't probably very helpful for your study...

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NRG: No...it's not really! Working habits...What do you think your balance is between, like you were saying about vetting things, and like you say checking them, but in reality when you are actually doing this thing (classroom teaching) what do you think your honest balance is between your rational use of it (YouTube) and your intuitive use of YouTube once it is up on the screen? Are you more rational with your planning or more intuitive or are you a mix? (Short comfort break)

Int.G: Also by the nature of this it is like that thing you were saying at ICS you know...If you know you are being recorded you are very careful about what you say...

NRG: No...Obviously whatever you say on here I am not going to put in...you can listen to the final transcript and if I put a quote in saying this particular NQT who happens to work with me...and you can be identified...it's not going in!

Int.G: All right...all right...OK. I can relax a little bit...

NRG: So with regards to vetting...do you really always vet your clips before?

Int.G: No...no, no one does...

NRG: So the model of all practitioners being rational in their use of YouTube is, would you say, mostly theoretical? Teachers on the ground when they are actually in the lesson don't plan every nth degree of the YouTube use. So you are saying something along those lines?

Int.G: Hmm...(affirmative)

NRG: But what is the balance in you? How far do you let your intuition or your distraction, if I dare use that word, by something that's up there (right hand column) that looks to be beneficial to the lesson...how far along that meme track will you go sometimes if it looks to be worthwhile and if it doesn't?

Int.G: Yeah I would if I was doing a lesson...let's say for example I was doing something on the Rolling Stones and then...it looked like there was another live version of it and then I might pop that up...I don't, i mean I've never, I may not have been teaching long enough, but I have never gone on that kind of journey of discovery that you might be talking about where you keep on clicking on those related videos...sometimes what I do if I want to find a video of what I want the is good of what I am talking about is you can filter on YouTube, you can filter by upload date so you can find the most recent uploaded version you can also filter by view count sometimes though when you filter by view count it takes the keywords of what you have typed in rather than the

exact video that you are looking for...So you could type in Rolling stones and it might give you a video of...

NRG: Some stones...rolling?

Int.G: Yes...Some stones rolling so that can be, that can sometimes happen...But I have never quite gone on that path that you are talking about and to be honest no I don't vet every single video I guess I try to...I have had examples that...I mean I would never do anything like that if I was being observed for example...never, never click on videos because you never know what might happen...I it was a video that was uploaded 2 hours ago it could literally have a pair of boobs in the middle of it...

NRG: A compromising element...

Int.G: But I have heard stories at ICS where an appropriate pause caused the entire lesson to be sidetracked by the frozen image!

NRG: So can you just tell me how you might, well really you have just done it, where you might put something up and then track off onto something else...So...Can you recall a surprising use of YouTube or a exceptionally creative or innovative use of YouTube that was as effective as it was surprising? Is there something about putting two things together that you saw on the screen or a comparative thing something...One of the common subversions is to show the image of one YouTube video but with the sound track of another by having two overlaid YouTube panes open...Anything like that that you have used the capabilities of YouTube for?

Int.G: I seen things where...with YouTube now you can actually embed links into the video, so as the video is going through it will come up with of flashes on there of a little hyperlink...like in a little speech bubble of related things...So there was a documentary I was showing about ...I think it may have been the Ken Burns Jazz documentary and I was doing a module on Jazz for the A level students at ICS...and it came up with things like...If you want to see more of this performance click on this link here and that was actually embedded in the video and then you could go on a journey like that, so it was kind of all through Ken Burns YouTube channel so all those videos were then vetted so that was quite good...arm i am just trying to think of any other innovative places where I have seen it...I have seen it embedded on homework sites...

NRG: what about those 360 degree YouTube clips now where you can see around an instrument or somebody playing it...Or somebody is showing you how to play the guitar in a split screen with the right hand in one and the left hand in another...anything interesting like that?

Int.G: I've seen those things ...the only issue I have with them is that it is more about the students ability to exactly copy what they are seeing not necessarily, for instance if you had a...It's like you can never replicate having

a personal one on one teacher giving you personal feedback of what's going on and you don't get that from YouTube...it's just like you don't get any opportunities to ask any questions back it's just you see the video, you copy it and then that's it...you don't get any kind of process it is all about learning how to play a particular thing exactly how that other person plays it and it requires them to be able to copy and I don't think...I don't know how useful that is really and because when I was learning and I still am learning I would always ask questions why is that like that and what is that etc. with YouTube you just have to try and suck it and see really.

NRG: have you ever uploaded an educational video to YouTube?

Int.G: Yes...When I was doing my PGCE I uploaded tutorial videos for students to use in the class so then they would all go away and use those to learn a piece of music...

NRG: And did that work?

Int.G: It did seem to work it meant that everyone, the good thing about it was that people could rewind the video, some people would need to watch it through once and they would have got it other would need to watch it ten times and they still might not have it... So it meant that people could learn at their own pace...I think people found it useful.

NRG: You could differentiate by duration of plays Suppose. Mmm. What do you consider to be YouTube's main strengths and weaknesses with regards to improving overall musicianship? What could it do for, you have already mentioned one of the weaknesses of just copying..

Int.G: Erm...I think the strengths of it are, the chances are if you can think of any piece of music it is on YouTube and that is immediately available to you in the classroom you know it used to be before when we used to have cd's or tapes, vinyl recordings, whatever it was, actually now you have got anything available to you in the classroom which I think is hugely beneficial If you want to show an example quickly of anything, if you get sidetracked in a lesson...I mean that's what I've used YouTube mainly for, rather than being sidetracked on YouTube, I've used YouTube as a device when I have been sidetracked in a particular lesson...for instance if I was doing a lesson on time signatures I'd remember a piece of music that might be in a really interesting time signature and then get that up on the screen straight away instantaneously within about 10 seconds, and I think that is YouTube's main benefit in the classroom, it allows you to provide real life examples instantly.

NRG: Well you see with your particular skill set it might not be, I mean you were a musician prior to 2005 and the advent of YouTube your personal musicianship and your professional music education practice, are they any different in anyway at all because of the technology?

Int.G: I don't think so...but I am probably in a minority...because a lot of people my age have actually learnt, or maybe slightly younger actually, there are going to be a lot of musicians now coming through who might not necessarily needed, I don't think that you can ever, like I said before, replicate that one on one teacher thing...that is just so...the one-on-one lesson once a week...you are never going to be able to replicate that...even if it is only for half an hour or something. But I think for some people bedroom guitarists and people that want to learn, people that want to get better at home, people that can't necessarily afford one on one lessons or for whatever reason can't have them I think it is a massively valuable resource...but as far as my musical learning goes and probably not very helpful for your study...it hasn't influenced me hugely at all it has just been something that I've used on the occasion when I need it...I wouldn't say that I've learnt of YouTube...

NRG: Have you ever found something on YouTube a particular passage on the piano or something that has been difficult to pick up or to audit, maybe you could hear exactly what Art Tatum was playing but then when you drilled into it and looked at clips and video footage and maybe looked at several people playing this one passage have you ever triangulated things on any kind of thing that you needed to play as authentically as you could for a professional engagement or for an educational engagement...Have you ever done that?

Int.G: I haven't done that as such but what I have done is, I've downloaded, which is very slightly illegal, but downloaded stuff off of YouTube using an mp3 YouTube catcher converter which you can do very easily and then I've put that into a programme called transcribe which is basically a programme where you can slow everything down but it still retains it's pitch. So I've done that a huge amount when I have had to transcribe solo's that's mainly what I've done, what I haven't done is gone onto the tutorial of how to play it.

NRG: right so that is interesting ...so you have gone that route...

Int.G: So it is a kind of 'do it yourself...'

NRG: Using tertiary technology to find the answer to a problem...

Int.G: Also there is that thing...where I will always try and go straight to the source ...so if I want to learn something...I don't learn it from someone else who has learnt it I go straight to the source as much as possible...

NRG: But if the source was a dead pianist, say Oscar Peterson, and you could see a really good video of, with good camera angles etc.

Int.G: i would download the YouTube mp3 and slow it down...

NRG: And you would watch it first?

Int.G: Whoah! Absolutely watch it first, because you know YouTube the interface, if you want to have it on your phone you have to then use your mobile data to keep on watching it which you don't have to do if you download the mp3 then listen to it over and over again I've got a few ones on my phone that I can actually slow down...

NRG: Interesting...with the piano you are looking at only one position for each note, only one spatial location for that pitch on the instrument whereas maybe if you play the bass or the guitar, if you are looking then, then there are different positions in which you could play the same note...and then...

Int.G: Yes.

NRG: And then if you wanted to find the authentic position, you might need to...

Int.G: ...then use the video...

NRG: Yes. And have you ever done that on your secondary instruments?

Int.G: I haven't...but my brother has! Huge amount...He is basically the opposite of me...He is learning guitar through YouTube...he's found all sorts of stuff and he does just literally that, he copies whatever they are playing and he's found that immensely ...I mean he's never had a single one on one lesson in his life but he can make his way through all sorts of tunes, chord shapes, bar chords all sorts of things...and I've never needed to do that, partly due to the other instruments I play I'm not that serious about, I've just kind of worked stuff out myself, but on the piano...like I say it's just that slowing down thing...

NRG: So it maybe... that YouTube as far as online learning goes might be more suited to a certain category of instrument over and above others? So it maybe better suited to guitars, violins or stringed instruments with different positions with 2 or 3 different places to play a note

Int.G: I mean that's most instruments...

NRG: Well your flutes and saxophones you are stuck in one place...

Int.G: Yeah...but you can then...get the same sound different ways so you can over blow and all those different sorts of things...so there are those but they are less common. I think guitar, bass, drums as well because you are not necessarily sure what tom they are hitting or whatever...what cymbal erm...even with the voice you would need to see exactly how they are

standing what facial shape they are making arm...How they are breathing, you don't always get that off a recording arm...

NRG: So do you think the value of YouTube for live...for learning purposes, for educational purposes for a musician on their own or within a lesson in school it might be that the live video footage might be of more interest?

Int.G: Absolutely, yes...

NRG: Obviously you could get a mimed version of the track or whatever, but it is the live footage that's the stuff where you can find out exactly what it is that musicians do...

Int.G: Yes. And another thing that you get with the videos is that you get the context of the performance sometimes with a recording you do not get the context of the performance sometimes by matching up the sun and the picture of what these people look like and the time...If it was a Jazz video and they were playing in some kind of Jazz club or at some concert you can start to see what these people look like and start to pair things up a bit more. You don't get that with audio. I think that is its value as well...

NRG: What do you think the future holds for musicians and music educators within an increasingly networked world where you can contact each other where you can post different formats of you playing or of other people playing of famous people playing...What do you think the future might be if things carry on in the direction that they appear to be going...for music and musicianship?

Int.G: Well I think you can only be...from a music education point of view it can only be a good thing as people are going to discover more and more ways of doing things and you're going to have even more resources at the push of a button. I think with regards to music, it somewhat has the power to devalue the actual craftsmanship of being a musician. Anyone is able to upload anything and it will get a huge amount of views just because it might be er...people have the ability to upload videos that are not particularly good musically but have something else interesting going on in them...I think that is one of its downsides because people go a lot on the amount of view counts...I know a lot of people who work for record labels and everything now is view counts on YouTube if you want to be a signed artist at somewhere like Universal records it's not what your music is like but how many likes have you got on Facebook? And what is your highest count on YouTube? Before you even get a look in!

NRG: They are paying people aren't they now to bump up view counts...

Int.G: Yes you can pay people to bump up view counts but they still have ways of seeing through that...with that technology, the fact that anyone can upload anything and call themselves a professional everyone now has the

platform to get themselves recorded and get their music to anyone no matter how good or bad it is! Whereas I do think that was the case before.

NRG: Have you ever found yourself on YouTube?

Int.G: ...Yes, late at night!

NRG: ...and have you ever found yourself distracted by something that you didn't expect to find and then you get interested and curious and then that leads you on a journey? It may be a long journey a short journey an interesting journey or not...does that ever happen/

Int.G: Yes! Not necessarily through the video but the description of the video can be really helpful for instance you might see a video...there was one of Sting and Jason Rubello playing and I suddenly got curious about who Jason Rubello was? And he was a piano player, and what was really interesting and I might not have known who Jason Rubella was, he might not have been on the CD...So able to see it was Jason Rubello...So then I Googled his Wikipedia page and found out lots more about him, other bands he was playing in and then Google them and find out much more about him via that route. I've certainly done that lots of different people...

NRG: And did it ever lead you to learn to play something from Jason Rubella or did it ever, did that journey, did you ever get back to your own instrument after you'd been on that journey? And do something different that you couldn't have done without that journey to make you play a chord sequence or learn something that you had no intention of doing before you went off triangulating all those different connections that linked back...

Int.G: Yes...There's a thing we used to talk about when we were at Trinity called 'Imitate, simulate and innovate' I mean in order to fully encapsulate the way someone plays something you have to totally imitate the way they play it, so it might be the way they are sitting at the piano, it might be the way they tap their foot really loudly...I mean I do that all the time...and it's something I've picked up...I mean Oscar Peterson does that all the time...I've probably, obviously picked that up from watching loads of videos of him...Erm, the idea is you completely encapsulate the way they play it, you then get that into your playing, and then you are able to 'imitate, simulate, innovate' you then simulate it, you've practiced being like that, that then becomes part of your playing and you are actually just being like them and then you able to take that knowledge then innovate using that knowledge.

NRG: So you are able to manipulate your senses, your sensorial steal from the image, now to do that with Oscar Peterson or to do that with anybody unless you actually go to see them, and if they are dead you can't do that, you are going to it through video...and then you could immerse yourself in a 3D kind of world, looking at it and listening to it at the same time, and then like

you say you simulate it and imitate...so you imitate, simulate and innovate...

Int.G: Yes imitate, simulate, innovate...

NRG: Yes and that, basically what you're describing there is the creative process.

Int.G: Well that's the creative process according to Simon Purcell who worked at Guildhall in like 2000, who's head of Jazz now at Trinity...who used to be head at Guildhall...and he did a lot of research about creativity in the conservatoire and how Jazz musicians learn and that's how he reckons jazz musicians learn, it's all about the...But what I'm interested in slightly, as I don't want, I'm not too sure how much I got from YouTube or real life doing that...some bits potentially from YouTube but I think a lot of it was actually seeing people playing in bands just in real life going to gigs and watching that...I mean the advantage with YouTube is that you can watch things over and over again whereas when you are just at a gig or something you've got it once and it's gone...

NRG: But the capacity to move from that one gig that you are in on YouTube to a connection gig that you see in the recommended video column on the right hand side...and you suddenly even get more information from that one and then you see that performance evolve...I suppose you could watch Oscar Peterson play a certain Jazz arrangement from the 1950's right the way through to his death and...

Int.G: ...Yes and you could see how his playing had developed...

NRG: Yes and then you could go and innovate on what he left, because he is not here to do it, so somebody else does...Just it does have that archival attribute that enable you to go back in time, and switch time around...and that's the good thing about it, when you think about it that we have got time to play with, which you can't do in the real world...But with this archive you can...You can be (create) asynchronous as they say, move things around...And I'm just wondering if you have made connections between asynchronous pieces of music, I mean things that you would never normally find alongside each other in a CD collection or even on a radio station...But on YouTube you could play back to back some Gregorian chant from Assassin's Creed and then put it next to something like 'Uptown Funk' and then make some bi-association between them that you wouldn't, it wouldn't be easy to do is what I mean without something like an archive like YouTube...

Int.G: Yes... I think one of the...for instance I'm using lots of Jazz examples 'cause that's the majority of the area the genre that I have worked in, but for instance if you are looking up, especially with something like a jazz standard you open, if you are a jazz singer you interpret jazz standards in a completely different way, in terms of phrasing, dynamics articulation and all these sorts of things, so what you can do if you were to type in Ella Fitzgerald

singing 'There'll never be another you' you can watch her do it, and then the right hand side linked videos down the side would then have maybe, sometimes those linked videos down the side are different for everyone depending your past YouTube viewing history...they are not just the same for everyone, things like the search engine optimization SEO for short which is where, I am not a huge expert on it but my friend is and it would give you optimized results based on what you've viewed previously...

NRG: So it's like web 3.0...so it's an individualized response to your search...

Int.G: An individualized on the right hand...for instance if you were an American searching for Ella Fitzgerald of 'there will never be another you' you will get a lot of American singers singing 'there'll never be another you' whereas if you are doing it for me and I've looked at a lot of British singers it will give me a lot of British singers...That's all part of YouTube's capability because everything you watch on YouTube is logged in your, as part of your Google account so your entire YouTube browsing history is logged unless you've turned it off...which I have. so my point is if you watch Ella Fitzgerald singing 'there'll never be another you' you can then see Liane Carroll who is a British singer who lives in Hastings performing at a Pizza Express and you would see that she has been hugely influenced by Ella Fitzgerald because of the way she is phrasing and doing it at the same tempo and even sometimes you see it where people are actually mimicking their actual body movements sometimes it's mirroring...that's what people naturally do as humans and you can see that they do the exact same arrangement mirroring the way she's standing and even breathing and the way she's holding the microphone and the place she is standing in relation to the band. Very interesting...I mean I've never quite got to it on that stage...

NRG: But that is something that would work with any instrument even Rostropovich, if you are going to sit a certain way, if you are of a similar physique...So presumably if you were to set up on another musician's account on YouTube, not yours, without your search history, your right hand side recommended meme journey would be different...

Int.G: Yes...

NRG: And maybe surprising? For you because you would then be seeing clips that you would generate because of the way you have searched in the past?

Int.G: Maybe...Yes. Maybe you might be less likely to find those things...I mean one thing that's also interesting that's slightly related to this...Is that I use Spotify quite a lot, and I know that your research is not about Spotify, But, there's this facility called Spotify radio and what it will do, is it will look at all of the music you listen to and if you're listening to a 1970's funk band and it will look at what else you listen to and there must be some big computer somewhere that triangulates all of this and looks at what other people have looked at the kind of music that you have liked and the 1970's stuff and it will

play you a personalized radio station of stuff you are likely to like and then what it does is that as you go through your radio station you click either like or dislike and it will tailor it even more so the chances are if there is someone who likes all the same bands that you like the chances are they've found another band that they like and you'd probably like...and it keeps on tailoring it exactly...into a sort of personalized radio station, very, very powerful and that's what they use now to sell gig tickets...So my brother works for 'Song Kick'...a company in Shoreditch, and they send personalized ads to people, so it's like the YouTube thing, what people have watched on YouTube, but this is based on what people have listened to on Spotify...So they will be personally be hit for advertising for specific gigs if they've listened to that sort of artist on Spotify or even YouTube although I think for the moment it is just Spotify, but I guess YouTube is coming later.

NRG: There is a commercial angle to YouTube as well as it is a for profit organization, they are trying to sell, but interestingly the diversity of what you get fed by this search engine, if Web 3.0 works its magic, you are getting less and less diversity and you are almost getting a reflection of your self reflection into ever smaller and smaller loop until you've just got just you ...

Int.G: I guess it might never come quite down to that but...

NRG: If you took it to its end concept it is going to come to a static point...

Int.G: It will yeah...

NRG: And obviously we don't live forever so you're probably not going to get there...but it's very interesting...the philosophy behind Web 3.0 feeding you your own information back and it's almost enticing you to marry someone who looks like you...Like Paul McCartney did!! So it works very nicely with lots of thoughts about creativity and about what people value when they reflect things backwards and forwards and change it slightly so what you get reflected back is like and evolution it's a slight change, it's evolved slightly, mutated slightly but it's more or less the same thing...So rather like Van Morrison he's made lots of albums but he's only written one song!

Int.G: But that's why it's called YouTube!

NRG: If this afternoon was worth nothing that one comment would make the whole thing worthwhile and gold dust...That's why it's called YouTube' what a fantastic way to get there

Int.G: But you know that's why it is ...

NRG: No I think that that's it's meaning now...I think when it first came out...but what you're saying is that it is rejecting you...and the more it is honed and tailored to exploit you commercially the more it creatively and

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artistically feeds you things that make you happy and that make your serotonin level increase and it's reducing you to Levity's the world in 6 songs

Int.G: It would be interesting to see how long someone's attention span lasted on a YouTube channel where their account history was turned off...

NRG: it would..

Int.G: And I wonder if they would stay longer on it with it on or off...

NRG: You see that's the thing...you see with it off...like you have...

Int.G: No I've turned mine off not because I'm watching anything bad it's just that I don't want all that there, I just don't like all that data building up about me...

NRG: Presumably you could have two or multiple accounts...one on and one off...you would then be able to see what happens with one with the privacy settings to the max and then one giving it all away...and then you would be able to see...really...

Int.G: just have it on the two computers and search for the same thing...

NRG: Wouldn't it be great if you had two screens and when you searched it went on both!

Int.G: Yes you can do that ...you can have two browsers...

NRG: two browsers open and it does the same thing...But it's not just your YouTube searches...It's everything you do...everything is triangulated...

Int.G: yes Google is huge...And I reckon Google because everything is centralized, and very few people go into their privacy settings on Google, which is basically you privacy settings for everything, it's your Google maps and your YouTube, Google Drive, Google shopping, Google blog, it's everything...Google + ...but if you actually go into that you can see all the data, and I reckon it's not just your browsing history from YouTube that creates those specialized selections, I reckon it's from all your Internet activity under the Google umbrella. I reckon it's from everything...

NRG: No...It will be...No because I've noticed the targeted pop up ads...

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Int.G: I get Google ads for this school!

NRG: And so that's another world in which you are not as free as you think you are...with this search engine...I mean you are almost being directed even the right hand side selection is a selection that is selected because of where you have been previously...

Int.G: (Bell rings) I've got to go and do my form...

NRG: O.K let's suspend proceedings right now and we will resume at another time...

Note: [Pages 87 to 94 blank and intentionally omitted]

NRG: What do you think the future holds for musicians and music educators within an increasingly networked world?

Int H: Probably more autonomy. But I don't know whether it's good or bad though. I don't know whether it is going to help or hinder...I don't know whether it is going to slow some people down. I think it could sort the wheat from the chaff I don't know I'm not thinking it through I'm just speaking outlaid quickly...

NRG: But you are autonomous from what? You are free from what?

Int H: From people slowing you down in a music lesson or...

NRG: So you're suggesting that new technologies will increase the amount of educationally fictional differentiation within a classroom and thereby allowing each student to progress at his or her own pace?

Int H: Move at a pace that suits you, when it suits you, how it suits you...

NRG: Or indeed....if it doesn't suit you at all you don't have to do it!

Int H: You don't have to do it...It 's completely on your terms. now I don't think people stop playing musical instruments, I know there is a big kick in the primary sector...

NRG: OK. Given that you can only watch what's uploaded, you can only watch what has been put there by other people. And that is a kind of limitation. So you are kind of limited by the people who can be bothered to uploaded populate the site. And then you are limited by the rules and

regulations of the site that allow some things and not others. How do think that twins with autonomy and learning without any constraints or indeed restraints, because it appears that the system is full of restraints. What do you think about that?

Int H: Well I think that the restraints compared to its pre-existence blow it right out of the water!

NRG: OK.

Int H: Because before you had to get on a plane and go and see someone in New York...

NRG: Or someone had written the book...

Int H: Or someone had written the book...but you still really never had any audio or sonic element attached to a book...you would still need to go to somebody and be instructed in how to do it. In fact a book would only warrant any merit if it were given to document the understanding...I mean learning a musical instrument. I mean if you are talking about learning dots and playing as a classical player and reading music out of graded material or whatever. But if you are talking about more general conceptual genre specific things...especially on my instrument.

NRG: Do you think that YouTube could be used in conjunction with a real one to one human teacher or would having that human one to one teacher make YouTube redundant?

Int H: No. I think that it. Look before YouTube the things you needed to do to become a better musician was to go and see other musicians and gigs.

NRG: And what were the benefits of going to see it live?

Int H: It was to see the thing. The very thing that you now get from YouTube. Now i am not saying that YouTube has replaced live

performance because I think there are so many more valuable things that you don't see through the lens that you see, feel, taste. smell in a music venue and people who go to festivals experience that and they come away feeling a little bit on a high and this can stay with you for a considerable time and make your year, change your life, or whatever! I think you only get a simulation of that through YouTube...but the thing is there is so much more of it available.

NRG: OK. Final question, final question. Are there any observation, curiosities, illuminations or insights on the use of YouTube within your world as a musician or music educator or within the field of music education or any specific domain like instrumental teaching, composing appraising that you would wish to share at this point?

Int H: I think the live broadcasting thing that some people are doing now is very good...So to be able to use YouTube and similar platforms to watch someone deliver some learning in a different time zone and essentially be in a different classroom with however many other people and be able to ask a question live, like would in a classroom now, and it be answered, just as we educators now find one question leading into an area of learning that you hadn't planned for and the whole thing is quite organic. I think to have the means for that to take place globally is very exciting.

NRG: It's synchronized but spatially separate.

Int H: And the only thing that has synchronized you all is the event (via the medium) and the timing. It could be a 13yr old budding musician and a 60-year-old practitioner and educator asking the same question at the same time or getting the same knowledge at the same time from whomsoever is delivering the learning.

NRG: Because most of it is asynchronous learning because you are seeing something that has been pre-recorded earlier and you are picking it up when it suits you and not at the time it was originally done. What are your

thoughts on YouTube as a Digital Ark a repository of lots of brilliant pieces of playing and some not so brilliant pieces of playing. But how useful from your perspective is it to have an audiovisual archive the size and depth of YouTube? How useful is it from an educational and a professional music viewpoint?

Int H: From my own experience that should it not be there for me now, should it not exist or it got taken away tomorrow it would be devastating and life-changing to immediate progression as a musician...to my journey developing myself as a creative artist and a practitioner and all those things...Or would it! (Laughing) Would I suddenly have to start thinking for myself go back to the old ways, get the books out and go through the same process that the greats did prior to, let's say, not audio recording, let's say as far as video recording or some thing that you had to pay for or steal from your best mate and watch it...

NRG: So if your access was withdrawn or it became too expensive for you...

Int H: Oh! Imagine if they started charging!!

NRG: Well you won't be able to imagine for too long be fair!!

Int H: Well that would be a shame because that very essence or fundamental ideological concept of it as it is 'Our Tube' or 'Your Tube' and to be fair we do pay a TV license and you need it to watch via the internet. And as you say we live in a heavily connected world with Google plus and adverts.

NRG: Just a thought...Knowing that all of your Internet usage is monitored and this is regularly mined big data readily available to Google. So this data is sourced via algorithms that are attempting to predict human agency and socio economic and even political preferences etc. The price

for access to Google's world is your personal data and individual privacy. What therefore are your thoughts on the trade off between your personal privacy and your access to a public medium like YouTube, Facebook, twitter, Google plus and social media in general? Is it worth it?

Int H: I think it is. I mean I haven't got anything to hide (Yet or ever?) If I did I would not be using it...

NRG: Obviously what you've got to hide is dependent on who is in control.

Int H: That's true!

NRG: And that's the problem with it I suppose.

Int H: I am not worried...For now there are bigger problems in the world!

NRG: There was a famous quote 'The medium is the message' It is not what the conduits transport but the fact that the conduits exist and to whom and what they connect over and above the content of what is transported in the way of informatics. And the medium is strong and far-reaching at the minute!

NRG: Well Mr. H you can press your delude button and send it off...It has been a pleasure! Thank You.

Ed.D Transcriptions 04.12. 16 Harry = Int H: Interviewer NRG: (Continued)

Int H: Right we're rolling...

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NRG: Harry, obviously I will get you to sign the form and everything and a consent form shortly er...How long have you been teaching music?

Int H: We'll... I started as a peripatetic teacher.. er...working for North Yorkshire in 2005, so that will have been 10 years ago and that was teaching drums and percussion and what have you... NRG: So you have been involved with teaching in some form (since then) and more formally as a qualified teacher...

Int H: 5 Years...

NRG: 5 years. Great OK. All right...so off we go! Of the things you have accomplished in music and music education which was the most unexpected or surprising, if you can think of anything like that just to throw you into a different world...

Int H: The most surprising?

NRG: A thing that you didn't expect would come of whatever you were doing as a teacher or a musician...a strange turn of events...as a percussionist...

Int H: Er...Oh yeah! Well on a teaching front I've never really said no to anything and er...And since qualifying as a qualified teacher without a post...to go into I've just said yes to everything including lots of supply work, Primary especially and even some in a special needs school ...

NRG: You are obviously successful at what you do ... but to what do you attribute your success? Is it your personal abilities or qualities, the environment, the technology or a combination of...those things?

Int H: Oh! It's got to be a combination hasn't it? I think technology has helped me massively and still continues to now it's allowing me to find my own pace and progression for free... there are no economic attachments. For example I should be taking regular drum lessons even though I am working professionally and am already an accomplished drummer...I certainly know that all the greats past and present still regularly receive tuition, perspectives and concepts and everything from others ...lots of sharing...But I guess I just don't invest any money in that because of the internet. Because really you can find what you need to know and come across lots of gems...more-so than the greats could in the day which was just listening to cut wax or whatever...

NRG: So of all the musical obstacles as an educational professional and a musician which has been the hardest to overcome...things that you have needed to do or to get?

Int H: All the things as a musician as a musician and as a teacher? I don't know I think it's very diff...They are two very different hats and er...it's I don't think...With the very little experience that I have got...I don't think that the two are similar.

NRG: OK.

Int H: For example the things that are difficult as a musician who teaches to overcome...are as you might expect the sort of er...more ...responsibilities that aren't attached to music...that you are required to carry out, like safeguarding and policies and all the sort of admin and logistics and all the bits that aren't to do with teaching and sharing musical experiences and skills and techniques with others is the bit that makes all kind of a bit...distracting.

NRG: OK. Here's an interesting one...what words of wisdom would you offer a beginning music teacher regarding the use of technologies such as YouTube within a classroom environment?

Int H: Well...

NRG: And has your perspective changed much since you qualified?

Int H: Well like always physically and with regards to technology...safety first! So make sure that whatever it is that you are sharing with students is vetted first and that it is safe...And then from there check that it is accurate and that it is something that you yourself would deem purposeful and useful and that it is just not shoehorned in because it just sounds or looks good and that it actually has some relevance to that which you are learning.

NRG: So would you...When you are in a classroom environment do you ever start off with your pre-planned clips that you think you are going to use and then find yourself maybe seeing something in the right hand column, or something that has more hits or something that you have never seen before crops up and do ever think to yourself maybe I'll have a look at that...On the fly as it were?

Int H: In the lesson?

NRG: Yeah...

Int H: Well you do but it is at your own peril isn't it...

NRG: But...

Int H: Assuming that you are in safe hands and it's coming from a source that you know to be All right...

NRG: But you would...deviate...If it looked interesting enough and it appeared to be educationally useful...and if it wasn't you could quickly jump off it

Int H: Oh Yes! Absolutely!

NRG: Do you consider yourself intrinsically or extrinsically motivated i.e. Is there an internal drive in you making you do these musical things? Or do you still have to be led from the outside with people telling you what to do? Which do you prefer?

Int H: I think I have to be in a funny way led from the outside but I go to the source to get it like I say I see things on the Internet that inspire me and motivate me to continue to try and develop as a musician...

NRG: But then once you have seen this extrinsic exemplar there is an internal drive in you that wants to learn the lick or to get the trick...

Int H: Yeah! I certainly do the hard yards which teaching music specifically that process is slowed down a lot, you know, as you might expect, like with any job even if you are a touring musician you're going to spend time on the road and not get much chance to practice but...So you have to become very good at managing your time and all those sorts of things and it's...the less time you have the more time you want...

NRG: So, to what extent do you keep your professional and personal persona's separate when you're in between the music education and the music performing...How much do they crossover?

Int H: Well in both roles you have to remain professional and I think that that is the key word and that if you can do that then you are All right...it, er. They do crossover frequently but in certain ...but in either of those environments you have to behave accordingly.

NRG: So presumably there are times as a professional musician when you are amongst musicians from which you learn something when you were supposed to be part of...but you are actually learning something and people may well learn from you and not really say anything...and then you've got the educational bit, where you

are the educator and you're supposed to be the one with the knowledge and you're teaching people...but occasionally I suppose you can also learn from students.

Int H: Absolutely! Absolutely yeah.

NRG: Do you use YouTube to highlight and or solve musical problems theoretical or practical?

Int H: Yes!

NRG: So you will go there and have a look at what other people are doing?

Int H: Daily! I did so this morning.

NRG: So can you give me an example of that? Do you look at several different drummers doing the same technical difficulty?

Int H: All right! I will give you an example that happened today. So, today I sat down with my breakfast and I thought right I've got time to eat my breakfast and drink my coffee before it is time to leave to come to work. So I'll just indulge myself and find something that I can sit and take in while masticating and slurping coffee...and I managed to come across a fella who is an absolute delightful and wonderful master of the drums and his name is Ralph Peterson. And I just stumbled across a video which was him playing through a bunch of tunes and realized when I paused it that it was the start of an entire hour and a half master class which I can wait to get back to...So watching him play I came across some particular lick that he played that I realized was in my rudimentary ability but I haven't yet orchestrated it on the instrument in the way he has...So, that sort of my mission for today, to sort of figure it out, go back watch it again try it out, check out all the different permutations of how it can be played and the different subdivisions and what have you...And that's just

one technical thing that has turned into an entire ribbon of musical possibilities and language...you know.

NRG: How much when you are watching these people...or what's the split between watching and the hearing of what they are playing. Like how they sit, how they breathe how they hold the stick etc. What's the percentage split between the two?

Int H: I think you correlate...It starts with hearing it. Because if you were to mute what was going on and you just watched it it wouldn't be too long before you said 'I need to listen to this now it's getting boring' However, if it was the other way around and you shut down your entire sight and just closed your eyes and had it in headphones and listened to it. It would become a whole different journey and it would actually be more of a live sensational, effective experience you would be having...so; the visual is definitely the second. But it really does help and reinforce what you are taking in especially with something as physically and as with the big physical movements of drum set playing.

NRG: So how is the visual important to a musician who is trying to learn something over and above their ears? In your opinion...what things get you get from looking?

Int H: Why you would get all sorts...You would get what hand to use what other parts of the body are being used at the same time and how the whole thing fits together ...as with juggling what is each hand doing and how many balls are in the air etc. So, you sort of get to take snapshots sort of freeze frames as things are going to see the order in which things are going to enable you to successfully try it out...

NRG: You see I am thinking along the lines with certain instruments. With the piano for instance like we said today there is an invariable where middle C...there is only one way to play these chords... there is only one place to find middle C, there are no two middle C's. But, on a guitar a Cello and various other instruments and on saxophones etc. you can

overblow and create notes in different places...So in that case I am thinking that you would need the visual sometimes to find the position that someone is playing in or how they set their drum set up for their physical height or their particular speed.

Int H: ...And technique and grip and er...Music...depending on the music they are playing...especially...arm....and then you are getting into all the sizes and dimensions of the instrument and all that sort of nonsense...

NRG: Do you ever read the comments?

Int H: Very occasionally ...I probably don't...I think I quickly make my own mind up. And usually I'm too motivated and inspired by what I've seen...should it have been a successful video. I don't really start to jump to far into the sort of social media sharing side of things. I sometimes share some things with other fellow drummers because that usually snowballs into them saying 'Yes seen that have you tried this...' and it becomes a dialogue with other...rather than it being global as you never know what Tom, Dick or Harry is going to respond...

NRG: So...That dialogue might lead you on to a meme journey? And you are off finding other things that are linked to it (your initial YouTube discovery)?

Int H: Yeah! Or not necessarily linked as in hyperlinked but potentially 'If you liked that then check this out...kind of thing...there might be a link that only a certain few drummers can identify with...

NRG: And interestingly the way that YouTube works and if you have not turned off your search options. It works via the things that you punch in via your Google account...so it automatically starts to present things like...the algorithm is looking for links between your searches because it is after all a marketing device.

Int H: Is that the cash thing?

NRG: Yes...so when you start looking at a lot of Buddy Rich...You will automatically flag things with the words Buddy and Rich in close proximity and that will usually involve the drummer...so...occasionally though it may be “Buddy” from ‘Elf the movie’ that crops up...But you can see how it works, It (Google/ YouTube) are trying to make connections between what you are punching in. To the best of your knowledge have you stopped that function? Because you can stop that function in the Google...and YouTube settings.

Int H: No...they are still on because I keep getting related materials...

NRG: So what do you think about that kind of thing where the more you look or search for the same kind of thing the more you get fed the same kind of thing in your right hand column of recommended video choices and that it really is YouTube. What’s your thoughts on that and where how you are going to find things that are outside your current awareness, how would you source novel content...How do you feel about the fact that you are actually creating your own playlist based on what you have previously watched? And where you aware of that until I just mentioned it?

Int H: I was aware but I certainly haven’t given it that much thought. So far it has been very helpful for me...

NRG: Because it keeps you in the zone?

Int H: It does...It does and it’s...There is a bit of sifting required though as I don’t need to see a teenager in his bedroom playing a single stroke roll really fast on a practice pad...again! Or an interpretation of a lesson on how to achieve that ...again!

Perspective is great and to get as many perspectives on a thing as possible is fantastic but then you start to...you

have to have an awareness...You can't just focus on that you still have to have a broader awareness outside of YouTube on what to watch and more importantly what not to watch! But I find it helpful...

NRG: And how do you find the marketing strategy? Where all of the Google Empire is joined up...

Int H: Yeah...Google plus etc.

NRG: Yes, anything to do with Google is going to be put together and matriculated and all of that information is going to be used to target you as a consumer and do you have your AdBlock on...or do you just put up with them?

Int H: I have AdBlock on...Yes.

NRG: So you have your AdBlock on?

Int H: yeah.

NRG: The adverts will probably for things like drumsticks...(laugh).

Int H: Well you would think so...But, I got to be honest...Even though it is a massive money making market is the drum world...I get ad's for other stuff because I might have visited a brand new website and ordered a bicycle inner tube!

NRG: And it seems to me that what they are doing is incredibly sophisticated...But my take on it is that it is going to narrow your opportunities for the discovery of novel content...The predictive content causes an oscillation between yourself...There is an echo in the room and the echo is you and you are being returned similar things incessantly...Which is good if you are focusing and focusing in my book, being the opposite of creativity, because the you focus you are not trying

to change, you are trying to perfect something that you already know...So it is interesting...

Int H: But...I understand what you are saying ...But I think though that...It's not the be all and end all...because you then go to your instrument and you apply these things as a beginner again and you have to go through the same process...although you might learn a specific scale or exercise or whatever and then you start to meddle with it and be creative with it ...so you are actually sort of getting a little thing...like a piece of clay and then you are molding it into whatever your imagination can come up with...So you are imitating to start with and then you start to test...

NRG: And then it evolves into something else and it becomes something new...

Int H: Yes...

NRG: Yes...well that's the idea of it. How best would you explain...I mean we have come up with things before with microphones inside drums and stuff, standard double tap YouTube open up the muted John Lewis Christmas advert and play the soundtrack from Jaws behind it, creating an example of how sound and image are inextricably linked. So how would explain the possibilities provided by new technologies, like YouTube especially, within music education, to a new entrant to the music teaching profession. How far do you think this thing can be pushed with this interactive YouTube thing? What do you think the next step is. I mean you're on it you watch various drummers who have their own websites with really high tech...and they have promos and they are sponsored and they have slick production values. It's not someone holding a camera in one hand and hitting a drum with the other... these are really serious platforms. Highlighting the professional YouTubers and the amateurs...and you are spending your time mainly with the professionals?

Int H: Yes.

NRG: So it's a device that you are looking at...like you were saying earlier that you are not taking drum lessons or you feel you're not...But you may well be...

Int H: Yes...that's true...Yeah. Yeah.

NRG: You may well be ...but virtually!

Int H: That's right!

NRG: So what do you think ... so how would you quantify the value of YouTube for a musician and as a music education platform...what is its real value, I know that we use it a lot for various things...I know that when we need an exemplar we always use it...The Christmas playlist is but one example! But what could YouTube do for music education? There is a YouTube education channel, but just for musicians...what do you think...What is its value?

Int H: Economically?

NRG: No...Educationally...Will it help people learn more?

Int H: Absolutely! I think the problem comes with education as we know it, inasmuch as we have...In music you have to do the hard yards on your own, no one can sort of, we know by putting two people on the same instrument it eat some point will really start to slow them down should they, or one of them really want to takeoff...So you've got spend some time on your 'jack jones' doing the hard yards and watching those videos and pausing and rewinding when...*you see fit*, and I think inclusive group education where we are delivering instrumental specific skills like in the case that I'm talking about it's erm more difficult...It's a single man's game (individual practice) sometimes, y'know.

NRG: Hence the name 'YouTube'....

Int H: Yes, it's not 'We Tube'!

NRG: Yes. And it is very much the individual and the fact that if you do not adjust your privacy settings you are going to get 'You' re-presented to yourself again and again...

Int H: Yes.

NRG: Erm...that's very interesting I will give that some thought. But here we go...How did you initially, and obviously it came to the fore in 2205 when it was sold to Google, but initially did you get involved with YouTube, when was the very first time you clicked on...Was it curiosity, necessity?

Int H: Oh no...It was with a group of friends...i remember the first thing I watched on YouTube was with a group of friends, we must have just graduated, but I was still in the locale of my student friends at the time and I went round to their house and they showed me a video on YouTube and I didn't really think about the platform because I was so enamoured with the video itself. Which was of some dancing some sort of body popping...I don't know what you'd call it, just a really amazing dance performance is I suppose what you'd call it, yes, a really amazing dance performance of some kid, and erm...

NRG: And that was the very first thing you saw?

Int H: Yes, I remember them showing me this on that platform. I remember that very, very vividly but I can't remember what came next as to how it became such a massive part of one's life as it is now.

NRG: Yes, I remember that I couldn't believe it! I watched the very first YouTube clip was of the people who had invented it were in a Zoo and I watched this where they went to the Zoo and created the very first uploaded YouTube clip they then sold it on. But the very next thing that I couldn't believe when I'd finally got through U-Tube which is a tyre

company in Chicago and on to the real site I punched in a song, I think it was Stevie Ray Vaughn, and I thought it's not going to happen...and then it came up, and then one after another every single thing that I wanted to look at, somebody had already put up, I couldn't believe what I was seeing! And the uses for for it were unbelievable.

Int H: Mmm.

NRG: When did you start using it for your personal musicianship and practice?

Int H: Er...It must have been...Well, I worked on cruise ships for a while and the Internet connection on cruise ships was not very good at the time, and everyone was still wandering around with big hard disks, terabytes of music mp3's and videos and concerts and TV show box sets sort of stuff and people were still carrying them around on hard drives and the in-thing at that time was to go to circuit city and buy a hard drive and get as much media from people on the ship as possible before you got off, especially with the musicians who had a lot of records and albums and things like that and then all that is now on a shelf doing nothing because it is all legally available on YouTube and a variety of other platforms and so I suppose it would have been after that, which was 2008, and I came back from the States with a laptop and eventually an Internet connection wherever we were living at the time and then it started to become referred to more frequently and then after that it began to be referred to more frequently...But it wasn't really for musical reference...but other than that I can't think... of a time when it was. No.

NRG: So, with regards to broadband speed and control within your personal environment this could have been an issue really, in the beginning, just to be able to see it. I remember when it first came out it was banned in a lot of schools, they just stopped it, there was people putting up all sorts of stuff, there was no control over content. Obviously that is coming rapidly to an end now, as it is surveilled to death. Err...it is

very interesting the technology and the freedom and control of it...anyway next one...

NRG: What would you suggest is the balance between your rationality, i.e. doing something, pre-planning it, looking for this particular thing, and you know what you are going to want and you are going to methodically go through and select the best one, when you are using YouTube...Or...how much is that balanced against intuition...that gut feeling when you see something up there and you catch a glimpse of something and you think...just a minute...that's, most of it is rubbish but there is that bit just there...that is gold in this thing here that I can take, even though the other one may be a fantastic example of what you are looking for but it doesn't have that spark...How much when you are actually looking for stuff do you go with your gut feeling or do you just stick with what looks like the most hits, the best thing...?

Int H: Yes. It's funny I don't tend to look at the hits counter.

NRG: So, do you go on recommendations? How do you get to the things you need?

Int H: For my own personal use I go back to the person who is in the video and see who they are and...err...qualify it by their reputation...er...As for stuff that I'm preparing to use for teaching...I don't know actually...

NRG: Do you have a different search style when you are in a live classroom and when you're not are you going to change it around? But then you've got to ask yourself who do they (the reputed) look at? And this is like the chase through YouTube through or via the next clip to find who inspires the people who inspire you? And who are they looking at?

Int H: Yes.

NRG: And often they will share that with you and they will say that my mentor is *this* person

Int H: Yes.

NRG: But there is always a point where it gets circular and they are all going to come round to, in your case it may be Buddy Rich it may be Louis Bellson it may be one of these great drummers of the past that...

Int H: ...That goes to Papa Joe the Chick Webb and then...

NRG: And they crop up again and then you've got that thing that you said about...You steal that thing and then it evolves through you and then you give it to someone else and it evolves again...so there is constantly this prey/predator going on...Where it get better and better.

Int H: Yes.

NRG: And sometimes not I suppose, as with the 1980's there was some seriously strange things going on with drum machines etc. that's when technology did a very strange thing to drumming.

Int H: Mmm.

NRG: Using YouTube how do you mine backwards to find your *mentors*, mentors? To find out, like you say, you want to get your fingers under the carpet; you want to get to the truth of it. How do you do that?

Int H: Well. You've got to I suppose...go to present, if you like, hero's, then they have these great things, particularly for my instrument (drums) and I think for a lot of other instruments as well, but for my instrument in America it is almost a way of life...Frequently there are master drummers

travelling around the States delivering master classes at drum shops and schools and concerts and all over world wide ...if you like and they are delivering what you might call these drum clinics and err they turn up and play and answer questions and usually these things are up on YouTube nowadays so again I don't have to leave the house or pay any money to go to wherever, Wembley drum centre for example, as I can watch it whenever I like and they'll share their experiences and go back to...I mean the more well informed scholar drummers do talk about their hero's and mentors and who they studied with and what books they used. And the books...Bless! I don't know where we are with the books but a lot of things have gone on to DVD but still the pdf's and all of these digital versions of books still exist and are still coming out thick and fast...Yeah, yes. And they are essential; any current drummer worth his salt would say the same thing. It is almost one of those...like what 'sticks' to you is what books did you use when you were coming up? Any monster drummer will know their elementary syllabus.

NRG: How much time percentage wise do you spend on YouTube or similar as opposed to Google drive, Facebook, Twitter and e-mails etc.?

Int H: Ah! Have you checked out Pinterest? Because it's funny you should say about this cache thing...because I only found out about this just this weekend. Pinterest is err...well you create a board, and I think you can create up to five to kick off with and if you're signed up, in you're browser, if you are using chrome or whatever there will be a little 'P' in the top right hand corner and if you click that on whatever page you are on it sends it to your Pinterest board and you can literally log into your board and look at, it is like a sort of dream board a bit like you might use your white board but it is digital and virtual so you can attach literally anything to it...a clipboard! And you can keep things there and it's just not in the confines of YouTube it's anything. Absolutely anything and then of course you can share that board. These are the ideas I am thinking of for my holiday next year.

NRG: Or these are my ideas for this chord sequence or this riff or this particular trick that I am going to show you or this speed to get to the velocity of or how you can create these ghost notes that make a marvelous sort of...

Int H: Yes.

NRG: How to play Bohemian rhapsody the easy way!

Int H: Yes and it might be a reference to a songbook that's for sale on Amazon or it might be an actual interactive video or a variety of things.

NRG: So have you ever found yourself being compromised by marketed where you have had to sign up to something, where they have given you a free trial or some such and you found it very useful so you have to actually part with money to purchase it...because otherwise you would be locked out?

Int H: Only...As far as finding employment which is more of a Music jobs .co.uk kind of thing at £12 a month or whatever...which I am not part of anymore yet I still get the hits and see the odd thing once in while and think if I was a member I would probably apply for that ...having said that I did see a job on Monday and then just took the subject heading of it ...put it in to Google and it came out in a bunch of other different places for free...So no... is the short answer...

NRG: So quickly on these two...When using YouTube to you believe it is best to keep things spontaneous or do you believe that this approach can be somewhat misleading or indeed compromising or do you work better with the old pre-planned approach when using Web based applications. What's your general call on that?

Int H: ...I don't know but I think you can lose so much time sat there clicking, clicking ...watching, watching...particularly through the night and into the wee hours that...

NRG: That's the thing how much time percentage wise do you think, if you were to look at all your online usage, how much time to you actually spend on YouTube doing stuff?

Int H: Well you see the thing is...

NRG: Or is it not about the time...it's about the after effect of the hit...and the amount of time you spend doing something because of what you have watched?

Int H: It depends whether it's exploratory or recreational...

NRG: Let's just call it musical time...It might be just listening or it might be with a particular focus where you are trying to find something you need to learn to play...

Int H: Pausing...rewinding etc.

NRG: Yes. It may be that you have a gig coming up and you need the exact or just the authenticity of a 1960's Tamla Motown drum fill so you have to trawl the archives. If you can hear it on the original do you then look at other people who may have been able to get there a different way? Do you do that? Or do you stick with the Urtext the original thing?

Int H: Er...Oh! No...I'll go and find some cat's doing it. A good example would be a track called 'Soul Vaccination' by Tower of power and that's got a killing drum beat and er... and requires quite a bit of shedding for anyone if you have never played it before...it's a bit of a trick to get down and er...Yes there are a few different people out there, and I remember doing that actually which will have been 2008 or 2009, and coming across one guy, and it's usually sometimes a trade off between

production value or explanation...the quality of the actual teacher in the thing that can play it and they do slow it down and they do show you how to play it but they might be doing it in a completely different language...so it er...Time spent on YouTube it's er...Let's say 10 minutes a day on average.

NRG: And out of that day...Let's say you've got a 100 per cent of your day and that takes care of all of your online activities, not work, we will take work out of it, but you are doing personal emails and Vimeo or whatever...What does 10 minutes a day convert to percentage wise?

Int H: Well it's not 10 minutes a day it's more like 2 hours a day...But then a lot of stuff you don't just sit in an armchair now you do it on the move (Parallel tasking /multi tasking) ...you know you are on the DLR and...

NRG: It would seem people very rarely watch anything to the end on YouTube ...strangely, you get what you need and then you are off!

Int H: Yes. I do give myself...I mean I can't handle...I mean I came across a video this morning that was an hour and seven minutes and there is no way I can commit that amount of time...So I will just have to watch it in bits and almost confine it into episodes for myself like chapters and I can usually cope with about 10 minutes otherwise I lose the plot I can't ...It doesn't all go in, or I have to go back and rematch...and I'll watch the whole thing and then go that bit, that bit and that bit ...And then go back and watch those parts again and break it down for myself. I remember this morning making a note of certain thing at 4 minutes and 47 seconds...So I am going to go back to that point and start that from there and then ...y'know.

NRG: But the length...especially if it is too long.

Int H: I watched a bass player called Marcus Miller doing the North Sea Jazz festival 2016 ...so it was this year so it was quite on the button i suppose, wonderful band set up with a percussionist and a drummer, and the drummer who I had never heard before and he was this young cat, so then I delved into him and he's a phenomenal musician and he is doing a clinic somewhere where he first of all plays guitar and records that then he plays bass and records that and then he plays drums over the top.

NRG: And he puts them in four quadrants of the screen and all that sort of stuff?

Int H: No...again it was production values...The sound was terrible, it was just off a phone, but the magic was there and therefore it reinforces other things...and I wasn't looking for this but now I realize that, yes, I should spend as much time on other instruments and the development of my general musicianship side of things away from my main instrument...Which you know is only half an instrument...the drums!!

NRG: Presumably you never upload? Do you upload much?

Int H: Er. That's a funny one.

NRG: That you are willing to admit to!

Int H: I've got a stack of things I want to record and upload one of the...

NRG: You have those Lion King exemplars?

Int H: There is but they are out of date now and I've got more educative things that I would like to upload ...My own lessons and things that I think, I mean they are not groundbreaking, but they are handy little things that are of value that I would definitely put my name to and be quite proud of but then it's just...I'm frightened of the production value, and it would take me five minutes to do on my phone but I would never be happy with it.

It's like recording an album really, I mean at what point do you just let the reins go... And go O.K. there it is, It's gone, it exists in the world...

NRG: So, you will upload content at some point and especially if you think it will help you and other people.

Int H: I think it's a sharing thing. I think if it helps the other people...I think I have to get past my own ego first and that's my own Bull Shit hat I have to deal with.

NRG: Can you take me through a typical way you would use YouTube in a classroom, maybe something that you have done before that was reasonably successful that features YouTube and couldn't be done without it?

Int H: OK. Let's take an example we both know and love! Mr. Marcos Santos delivering Samba.

NRG: Exactly! So can you talk me through that? Just protocol it through?

Int H: All right! So just a quick explanation of what the aim of the game is or the session or the lesson or whatever it is and...you see the thing is that it takes the heat, not in a bad way, but it takes the heat of you, particularly that Marcos Santos thing...

NRG: Well he is an expert...

Int H: Yes precisely! He's from the country, he's got all the gear there and he's speaking in the language and all the vernaculars there and also all those beautiful things that he has put in whereby he shows it to a click and then you get to play along with the other parts and you get to do things that one man or woman can't do necessarily in the classroom...that is rehearsed and performed, then again he might have done several takes and got it wrong and then he's put the best one up. You

don't often get that luxury, you have to nail it live every time even though you have just dealt with a student's nosebleed in break time so you turn up a little bit flustered, so if you have not got 'A' game, and as you would know as a musician, there is no way Mick Jagger would do break time duty before he goes on stage at Glastonbury!

NRG: True! It provides a ready-made expert who is not tired and is at the top of their game and consistently good!

Int H: the sound quality and visual quality is also good...yes.

NRG: So the screen is split into quadrants and everybody gets to play their part.

Int H: Yes. A clear demonstration of all the parts and then you can go and reinforce that by doing a live demonstration of each one and get people actually doing it and scaffold it and get people doing it to the point where they can achieve what's happening in the video.

NRG: Can you recall an innovative or creative use of YouTube that was as surprising as it was effective? Something where you thought that works! It's unusual but it really works and could only work because it was visual as well as audio? We are in a sonic world and I was speaking with another respondent yesterday and they live their world mostly through their ears...So the visual thing for that respondent is not such a big deal...Can you think of something that you've seen taught or you've seen on YouTube...could be the Ted Talks...it could be anything that couldn't easily be done, if at all, without YouTube?

Int H: There is so many. Something that came to mind initially, although it's not groundbreaking or anything, but the things that the students use in order to play 'Zelda' on the keyboard or whatever are those...

NRG: Strooped keys, coloured drop downs. So, that really is favouring the visual over the sonic, because the students can't or won't read 2 dimensional graphic notation as it appears not to be in vogue currently. So students are exploring other methods of representing sounds.

Int H: They are a little more interactive with the strooped...

NRG: OK. So we've got that. What do you consider to be YouTube's main strengths and weaknesses with regards to improving overall musicianship?

Int H: Well the vast amount of sharing that can be done internationally and globally...I think is brilliant. Sometimes live, you can watch someone playing something on the other side of the world and have a dialogue with them. It is pretty amazing!

NRG: What about the weaknesses?

Int H: I think you can get sucked in. You can spend too much of your time watching and not enough of your time doing...I think. You have to...You can be oversaturated by it all and actually the very thing that you turned up at the computer looking to find can turn into something (Laughing) 500 things and then you're...what was the thing I was just looking for?

NRG: So that is being led on a journey by YouTube and being distracted by other things...

Int H: Distracted. Yes.

NRG: And then you move on to the next thing without attending to the work you intended.

Int H: Yes. But sometimes it can be a good thing as you find something else and your priorities shift and you start on something else...y'know.

NRG: And again that gets back to the interesting thing that that kind of journey that you are taking is almost a self-built tunnel

Int H: Yes, it is being determined by your very self!

NRG: The more you click the very things you click the more that triggers other similar things to click...it's an interesting recursive loop!

Int H: It is...And on that I have found myself saying why am I here...why are these things that were the distraction in the first place...when I should have...So it can actually be a help...It's a sign to say that you have been browsing things that are not to do with what you should be focusing on. And then there is a little moment of embarrassment to think that I have been watching kids playing this that and the other when what I should be doing is something that is far more highbrow or whatever.

NRG: What do you think the strengths and weaknesses of YouTube just within Key stage 3? What are the particular strengths and weaknesses of YouTube with the 11-14 years age group?

Int H: Er...

NRG: Other than the fact that watch and listen to content on YouTube almost perpetually!

Int H: Well I think being able to watch a variety of approaches to delivering the same thing and then picking one that is good for them. I know that two kids may argue about which is the better video that's delivering the same thing.

NRG: It gives a lot of differentiation options?

Int H: I'm not too sure about all the comments and the hits and the information and data that comes with someone uploading a video I make my own decisions really...but a Key Stage 3 student. One of the drawbacks is that it is all about time and we want everything immediately really. We are so impatient. If you're listening to someone just waffling on why not get right to it and show me straight away...that is certainly a drawback that you have to spend time sometimes trawling through...NRG: In real time sometimes.

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Ed.D Transcriptions 2015 Int:I = Isaac Interviewer = NRG: Pilot # 01

NRG: ***** ! What is your instrument?

Int.I: Drums.

NRG: Drum player. At what age did you start learning?

Int.I: I was 11years old...

NRG: And how old are you now?

Int.I: I am 37 I am ashamed to say (laughing).

NRG: Oh! You are kidding me!

Int.I: I know...I'm sorry! (Laughing)

NRG: Why has this happened to you? (Laughing)

Int.I: Why does time never stop! (Laughing)

NRG: It shouldn't happen to people like you! (Laughing)

NRG: So as I was saying the right hand side bar of YouTube throwing up the 'you ... might like' like you might get on Netflix. But there is a bit more to that we will come to that in a second. When you were learning, did you learn by ear initially with a propensity for playing the drums or did you learn with a cross between notation and ear and did you have a teacher...What was the, how did you get going?

Int.I: Er. It was a combination of two things. First of all it was my Dad. My Dad insisted that I play an instrument and I did not want to play the piano or the guitar or trumpet...I was a fussy annoying kid and I wanted to learn the most obnoxious instrument there is and that is the drum kit! And er... As soon as I said that my Dad went out and bought me a pair of drumsticks and a drum book drumming for beginners, literally. Which I am sure he's still got somewhere in our house in Scotland and it showed you how to hold the sticks and showed how to do a single stroke roll, a double stroke roll and a paradiddle and had a graphical representation of how to read basic rhythm, crochet and quavers...and through that learn a basic groove, Billy Jean basically, it didn't say that, it didn't say Billy Jean and I sort of learnt that groove...before I'd learnt anything actually.

NRG: So it was like graphic notation it wasn't the kind of standard western notation?

Int.I: No.

NRG: It wasn't drum notation.

Int.I: No. It was literally three lines of squares. One for the Hi Hat one for the snare drum and one for the kick drum. Er. And the other thing was my brother who was very musical, very into music and he played the piano and he had a sequencer, a Roland...I forget what kind of sequencer it was. He would do things like programme the whole of Beethoven's 5th into his sequencer one note at a time....and he just loved music and seeing him, because he was able to pick up playing this groove very quickly and I think it was seeing him do that and seeing his musicality that kind of encouraged me to learn more and to listen more...listen to what he was doing and to listen to the music he was listening to...and learn grooves that way, and I must say it wasn't long before I got lessons with a chap and we started learning from notation immediately and it was all hand written, I mean in those days there wasn't even Sibelius ...all hand written notation and rudiments played to metronome very quickly...But he was quite keen on making it musically relevant so he would always give me tapes of the music I was learning so one of the first grooves I learnt was 'Beat it' ...and he recorded it for me and made sure that I could

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play along to it and he would sometimes record himself playing the exercises that he wanted me to play so it kind of made it about listening just as much as reading.

NRG: So at that point there were no videos or anything like that so you were just learning...when he was there you would watch him as well. So you would watch how he did things...just normal teaching. So what was your profession pre 2005? How old would you have been then? Just before you started working in Haringey.

Int.I: So it must have been something like 26 I think.

NRG: So, were you teaching then?

Int.I: At that point I had just finished teaching for Waltham Forest. I should point out that I took 2 yrs. out after I left college I was teaching in secondary schools with a little bit of private teaching (Dog Barking 10 min break)

NRG: So you were teaching in Waltham Forest was it one to one?

Int.I: I was teaching in a Primary school where it was more like two or three at a time but mostly one to one yes.

NRG: And of course the reason I am interested in 2005 is because that is when YouTube finally started to appear. So beyond 2005 you probably been teaching since then...

Int.I: And obviously I started at P.V. in 2007 but I suppose the rest was private teaching.

NRG: So, here's one for you. Here's a curve. Have you adjusted your privacy settings on your personal computer that you use for YouTube? Have you read and checked out.

Int.I: I don't use my computer professionally.

NRG: No, but for you if you want to search something up on YouTube or learn something or have a look at somebody playing...So you've just left it...OK. Have you read Google's terms and conditions?

Int.I: No. (Laughing)

NRG: From start to finish! No. Interesting.

Int.I: (Laughing)

NRG: Have you ever uploaded anything, musical, something to teach somebody other than maybe some gigs that you featured in?

Int.I: There are lots of gigs up there. But the only things I have uploaded myself are, I and ashamed to say, birthday messages. Usually a lizard talking along to a soundtrack!

NRG: But you have not uploaded how to play a paradiddle or anything like that?

Int.I: No. There's plenty of already in existence.

NRG: No there is plenty of that you are right! Of the things you have accomplished in music and or music education over the past ten or twelve years which one was the most unexpected or surprising and the rider to that is to what do you attribute your success e.g. was it your personal abilities / qualities the environment, technology. What caused it, what's the thing in the past twelve years that you were surprised by in a nice way or maybe not, but either way it was an accomplishment so it was probably a good thing...But unexpected?

Int.I: There is kind of two answers to that. If I am allowed to give two?

NRG: Yes.

Int.I: Because one of them is kind of dependent on another person. And it is something I achieved with another person...

NRG: Yes. That's OK.

Int.I: Basically when I started teaching I would never have assumed that I could have been involved in bringing a band of 11-16 year olds playing on Radio 3 and playing for the London Jazz Festival at the Barbican...recording a professionally recorded album with that band. I couldn't have dreamt of doing that and the reason that was possible was because of the single minded determination of one man, and it wasn't me, it was of course Mr.* and I was at best an assistant to him, really, if not a useless annoyance...but it was something that I was involved in nonetheless. So that's the most surprising thing I have done in education. On a personal level where it hasn't involved other people I have been very surprised at the fact that I can or have been able to take a very, very diverse range of students and put them together into an ensemble and have them play together as one. There are two examples of that there is one drumming workshop I run at HS Secondary and every year for the summer concert I kind of do a drum ensemble and every year it gets better and better and what we achieve gets a little bit higher and last year we were doing hocketing through semi-quavers and each student was playing one semi-quaver in each beat we were playing that across 4 so that was kind of, at a high tempo and getting them to do that as part of a bigger ensemble that kind of had some musicality to it and won a lot of praise from the audience I was very surprised and very proud that I could do that, especially with the students who had very bad records with regards to their

behaviour and all that kind of stuff. An something happened very recently in Haringey where I took on some students who really had never played the drums before and had questionable natural abilities and yet was able to produce a piece of music that people liked. And that was a surprise as well I wasn't expecting to be able to do that. I am not sure whether that answered your question?

NRG: Yes. That was good. What about the other side of that. Of all the obstacles you have encountered as an educational professional and I suppose as a musician, which has been the hardest to overcome?

Int.I: I think...It's kind of a daily struggle with constantly trying to make every lesson, my lessons are between 20 minutes and half an hour long, and every single one of them, really if I am to do my job properly It's my own belief, that that one other person that is in the room has to be the most important person in the room at that point in time and that their ability, there own character as to how they learn has to be taken into account absolutely at personal level I really believe everybody learns very differently and it's very easy when you are doing 20 minute lessons back to back for 5 hours, it's very easy just to do the same lesson again and again and again and to not do that and to really treat every student personally and to be absolutely appropriate to that person is a constant struggle, it's what makes the job interesting, it would be very boring if I gave the same lesson every time...being able to be that personal requires a lot of concentration and involves a lot of attention.

NRG: It's like understanding people almost more than the understanding of the musical element or skill you are trying to pass on. It would appear that you need to understand people!

Int.I: I think at the beginner level when it comes to, you know, understanding how to hold a drumstick and how to see it as a kit and all that kind of stuff...Understanding people is 99 per cent of what it is about.

NRG: lovely! That is good. Any obstacles that you have yet to overcome?

Int.I: There is a personal thing, my stammer, but usually when I'm teaching it's not a big issue but when I'm involved in conversation it is a problem. You know I find it difficult to converse with people in general, because of my stammer I have this sense of it being an effort to kind of talk to somebody and I don't want me conversing with someone to be a big deal I want it to be smooth and just happens and this is a very personal opinion of myself that when I stammer I am losing the respect of the person that I'm talking to and I'm not sure that's true but it's a worry.

NRG: But I think you're on that one. However, here's one for you Do you consider yourself intrinsically or extrinsically motivated? And obviously that's not an either or you can fiddle with that!

Int.I: I'm going to have to fiddle with that a lot! Because as I learn as a teenager, I was back and forth, I think having a lesson every week with an individual and that if I didn't go and see him...

NRG: That would be the extrinsic part. (Laughing)

Int.I: Certainly! And that person, I mean for a long time, I think about 5 years I had the same drum teacher who as a Dundonian alcoholic (Laughing) Yet he was a very personable man, a very humorous man a very strong man... In some ways he was very inspiring and that in a big way, when I wasn't interested in music, and of course as a teenager I was dipping in and out of the, my interests would change... into mountain bikes for months and fishing etc. and what was going on in my life meant that music was not the first thing that I got up and thought about. And when that happened and I still had go and see this person who was a big inspiration to me not only as a musician but as a person meant that I still kept that interest in music, that interest stayed alive. I think it would have been easier to forget about it or let music fall by the wayside if my teacher had not been as engaging as he was.

NRG: So was there a drive to solve technical issues on the drum kit? Say you were 3 or 4 days away from seeing your drum teacher and there was something you had to work on... was there something burning inside you that made you want to get something up to tempo or get something correct or find a better way to hold the stick or an easier way to set the drum kit up..

Int.I: Yes. It's kind of three things really. First of all, initially it was that I didn't want to let him down; I didn't want him to be angry or disappointed in me. Then it became about where I wanted to be better than him, and there was a point where my technique started to overtake his and that was a big driver and I thought Wow! I really must be onto something here if I am able to... little things like play a double stroke roll faster than he can it felt very good to be able to do that. And then lastly it was actually about music and wanting to be able to play music better than I did and not worry about the technique and not worry about anything specific.

NRG: So now as you stand right now what is your balance between intrinsic and extrinsic?

Int.I: Now it's... I was going to say it is intrinsic that I want to be the best musician I can be which means constantly struggling to find music in everything and er... listening intently to everything that I do and everything around me... But having said that I dare say there is still outside pressures that encourage that the fact that I am a part of a musical community, the fact that I play in bands that will notice if I haven't been listening to the music, if I'm not concentrating, if I'm not doing...

NRG: Do you ever see other drummers when you are out and about playing, maybe even on YouTube TV and you hear something or see something

and you think...and that event becomes an extrinsic motivator for you? If you get caught by something that you were not expecting and you get caught by a lick, or a trick a thing that then sets you off on... 'I'd like to be able to take that and play that'. I still get that drive do you? You then have to go back through your back catalogue of crystalized knowledge to find your way and then you can get, and it then it may only be a scratch for you to emulate it, for other people who don't have the 10 or 20 years of playing experience to find what they have just heard...well they can't!

Int.I: Yes. That's a very good point. Recently I remember teaching something that's called a Purdie shuffle, like a sort of triplet half time feel shuffle, and she could get the basic kind of structure to it and everything...but I was listening and I found all these examples and one of them was John Bonham...playing a Purdie shuffle and he just brings his own thing to it. It's this unbelievably powerful, yet feels incredible groove, and I remember just listening to it, and thinking that's absolutely amazing and then spent an hour playing a shuffle because I wanted it to sound like that because it sounded so much better than I made it sound. And yet, you're quite right, it's because of...had that girl that I was teaching heard John Bonham she wouldn't have been able to hear quite what I was hearing.

NRG: Yes that's the thing. I and thinking about YouTube clips and some of their usefulness is not as useful as it is for others if you've got that knowledge, that experience of stored musical ideas and skills even something that is played by an amateur can give you a clue because you can triangulate it with other information that gives you a new piece of knowledge for you...or a piece of creativity that you have created something psychologically new to you it might not be historically new to the world but it's new to your skill set and to your head. Wow! If I put A with B I get C you get a synthesis of...that's the area that we are in...It seems that successful people are in that area most of the time looking for those connections. We will come on to Arthur Koestler...and his book the Act of Creation 1963 where he came up with the idea of linking two seemingly disparate ideas and thereby producing a third by the initial bi-association. Very interesting. Simple but seminal text still well regarded.

NRG: Well here we go. Do you manage to keep your personal and professional personas separate when you are teaching? Like your professional musician type...you've got your professional educator hat when you are teaching but you are also a professional or semi-professional musician, or you are working as a musician in the real world. Are you fused as one person as a musician or is there a way that you try and keep them separate?

Int.I: Er...they are not separate I don't think. Obviously you've kind of got a bit of a hat on when I'm with students under the age of 16...obviously there are responsibilities there. Duty of care and I try to dress smartly I have to watch my language...so those kind of things mean I am wearing an extra hat when I

am teaching but I don't think I stop being a professional musician when I am teaching either, I think If anything, although it sounds a bit pretentious to say, I am a professional musician first and a teacher second even though I may earn more money out of teaching I think the reason I am a peripatetic teacher is because I am a professional musician. If I wasn't a professional musician I wouldn't be a peripatetic teacher I might be a music teacher in a school or something, I am not saying that I can't teach at all but as a peripatetic teacher it is vital that Int.I: am a professional musician, so what I bring to the drum room, the band room, the teaching room when I'm in it...I'm not a music teacher I am a drummer and what the student learns is from a drummer. And of course there is more to being a great teacher than being a great musician but in terms of peripatetic teaching it's to a large extent about being a good musician as well.

NRG: Interesting. Because you were saying that with your first teacher you didn't have YouTube or videos and there was none of these self help things for drummers or guitarists what do you think of the split between the audio and the visual and how important is...seeing somebody do something or actually being in the room and seeing somebody do something (Musical) the point at which you see it...it is not possible for you yet to do...but you want to do / learn this thing. How important is it for you to see it being done as opposed to just hearing it on an audiotape? Or demonstrated or modeled?

Int.I: Mmm. The quick answer is it depends on the individual and personally it depends on the point of time...

NRG: But for you?

Int.I: For me, up to a point, it was absolutely vital that I could see. If you asked me to learn a groove just by listening to it aged 13 I would have found it very, very hard. I think being able to see it was absolutely vital up to a point...because I think learning from, using my ears only is actually an acquired skill and it takes a bit of practice.

NRG: It's an unusual one, because I was talking to one of the guys at CCS and if you think about it maybe 120 years ago, before the phonograph was invented and there was any way of recording anything to listen to again. Music was never divorced from the visual, you had to see it, and it had been so since antiquity. If somebody played a flute or a bone flute you had to be near enough to see it to hear it...Then suddenly you got this mass production of acetate and piano rolls etc. that you didn't need to be in the same place as the actual musician playing it . So that skill of decoding disembodied sound coming out of the ether is quite weird and possibly quite an unnatural phenomena. And now I am thinking...with YouTube we have strangely returned back to how it was ever thus...with sound and music being linked and I know that many a time we have had this conversation in many a hostelry in Camden and beyond where we are finding that students can't listen to music without the video, without the latest thing that goes with it, be it the Gangnam style dance or without Beyoncé

appearing on a screen. And in a sense it is not really that surprising because there is millions of years worth on the other side of that brief moment in time where suddenly technology came in and separated sound and vision. Thereby putting a massive focus on your ears...Again it's like the difference between listening to music with your eyes open or closed...again it's another world...it can change the 'scape. And that's a story for another day...but what are your thoughts on the audio-visual experience as opposed to just the auditory experience when it comes to musical learning? Pro's and Con's! You can see where I am here I am looking at the technology we have got now and comparing it to what came before...where people used to sit around a fire in whatever continent they were on an people would be playing drums and they would all be there and they would be getting the visceral hits of the sounds and even the vibrations would be going through them but they're actually in that enclosed space. And then there is the whole thing about actually being, no matter how brilliant your surround sound technology or whatever you have got going in the best cinema in the world...there will always be a difference between them actually being there on stage with you (audience) in the same time space, synchronized in time and space with the event. And the thing about YouTube and it's representation as a digital Ark is that it is asynchronous and the fact that you can pull things from any time frame and decontextualize them from where they were and re-contextualize them in the present. Which we will come to later as we have got as YouTube has a myriad of uses and it is an amazing and comprehensive back catalogue to have at your fingertips. But, what are your thoughts on the 2D big screen, classroom, one to one...I remember that our Argentinian, Chilean, Paraguayan guitar playing friend who drives very fast cars and is married to a multi millionairess...He used to always go into his guitar teaching lessons with his iPad and he would probably demonstrate whatever song they were going to do and they would be using virtually retrieved guitar tablature and he would be using technology a lot...So what do think? Are you more old school or...

Int.I: ...I am a lot more old school! In that it's not that I have anything against looking at videos and looking at something...

NRG: Do you ever do it in, maybe for you?

Int.I: Yes, more for me than my students occasionally...often I use YouTube simply as a resource...because you can listen to music on it...Occasionally I might look at instructional videos that show kind of show things. I wouldn't say that...Where I use it the most actually is in playing graded material, because the graded material show somebody playing what the student is supposed to play and what's written on the notation...

NRG: Is that a split screen? Is that how it works?

Int.I: No...Sorry, no...they are playing what you're meant to play...

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NRG: So they're playing and playing grade 4-piece number 2 for drum set ABRSM and that'll be it? And it will be played more or less perfectly...

Int.I: It will be them playing with an overhead Camera shot showing what their hands and feet are doing...Er...But the important thing is that it also has the backing track and that's why I use it...Because I can show them what to do and I can show them just as well as YouTube...

NRG: So it has a clean backing track for you to use without any drums on it?

Int.I: That exists on the CD's that you get with the graded material...

NRG: So they are going to double the drum which of course you couldn't submit...But it is a good practice facility.

Int.I: Yes but really as a resource I'm kind of using it more as a homework...

NRG: Yes...that's what I'm thinking...

Int.I: They can see somebody doing it and they can take that home and they can practice..

NRG: And if they forget or their reading is not that good they can look on YouTube and they can remind themselves how it goes.

Int.I: Yes...that's it.

NRG: And they can sit in with the YouTube video and play along with it.

Int.I: And crucially with the backing track as well and that's really important. And I think really that the context that I use it in the most. I think...

NRG: But for you? What do you do with it? Everybody is different. I am finding the usage of YouTube is declining into personality types. There are certain types of people who are social media addicts and there are other people who are not and there are other people who are incisive with what they want to see...Some people go off on a meme journey for the rest of their lives every time they go on it and do not come out until ten o'clock at night usually ending up in Japan! (Laughing). Other people just watch one gig then come out. Where are you on that scale?

Int.I: I'm more like...anyone can tell you I am not into social media at all. Basically I am not into communication in a big way...but anyway. But I have been know to go into a YouTube hole where you disappear...

NRG: Have you ever looked at some of the great drummers of the past? The Buddy Riches etc. just to see what energy they brought to a piece of music or what or how they go about setting up their kit even?

Int.I: Yes! I mean I have looked at a lot...I mean Bernard Purdie did a whole series of like videos which are brilliant and I have watched them a lot and I've watched things like 'Questlove' Because he's a great drummer because of the way his grooves feel and part of that, playing with feel, is that it is just not about the way it sounds, it is also about posture and see him playing... (Incomprehensible)

NRG: And feel is also dependent on who you are in here In your head.

Int.I: Yes, massively, that's right. To be honest, personally I use it as a kind of gateway because everything is on there, the whole world is on there, I can listen to any piece of music that exists via YouTube. It is terrible quality, it is often corrupted so that it isn't taken down for copyright reasons...All these things... kind of gives an idea, and from that idea, I'll then go on and buy the vinyl or I shall buy the CD or I'll find it on Spotify, or in some way I'll get a better quality version that I can listen to. YouTube itself is like a kind of giant poster for everything in the world.

NRG: And I'm imagining that you are not going to, when you click on all of these things, I may be wrong...but do you read the comments ever?

Int.I: Rarely. It's either someone saying fake or it's just an argument about say politics

NRG: And the further you scroll down the more unusable the comments become...

Int.I: (Laughing)

NRG: So, But how about that right hand side recommended viewing column. Because what you are going to get there, because you have not adjusted any of your settings, when you use and whenever you are signed into Google your metrics will be working and the mysterious algorithm about which you may know more than me, but we will talk about that presently. The algorithm decides on what you have punched in to look at in your previous visits, and the algorithm changes apparently quite frequently, and YouTube are very secretive about it but, because of the names and the numbers and your previous searches it will then start to offer selections in the right hand vertical bar, using its predictive Web 3.0 capabilities that you might like to pursue. My worry is that that become very inward looking (self-referential) very synoptic as opposed to panoptic. That if persist in looking at Buddy Rich and big band and then again Buddy Rich then in the end if you did carry on doing that, yet again this is totally dependent on the ever-changing algorithm. The algorithm

changes partly because YouTube does not want to be gamed e.g. people making money out of guessing which video will get the most hits and false hits deluding advertisers etc. But the natural conclusion is that is the final analysis you will end up with just a similar if not the same selection of Buddy Rich Big Band video's as the predictive recommendations are based on your previous views! This is my worry of the not that too clever artificial intelligence available at the moment that's predicting what you are likely to do it is similar with Netflix, you have watched this...so you might like? This is in a sense the opposite of what I was hoping to see which is because of this digital Ark, this cabinet of curiosities from the Baroque, a precursor to museums. Wealthy people would place lots of eccentric items from around the extremities of the known world in a cabinet and then display it in a room. YouTube is kind of like that, we are at present looking at YouTube from a musical perspective, but we all know that YouTube carries a lot more than music. For instance I was using YouTube to fit my dual flush button on my recently purchased cistern! (Laughing) You end up back where you started with this method of productivity and it is the very antithesis of creativity, as it is currently understood. However despite that, the fact that there offering you back stuff that you have already had a go at and the algorithm may well have a piece of maverick code that has been added to move you on. But at the moment it appears to be all about marketization and commodities and getting people to watch adverts and generating sales and revenue. I don't think, even though Google at present is portrayed as marvelously anarchic and beautifully egalitarian, all things to all people. Their altruism, well I don't know how far that's going to go. But the idea was that there may be hidden affordances within their tightly orchestrated environment. The problem with revealing a hidden mechanism is rather like if there are Machiavellian goings on in the Government and you expose that and say '...This is what they are really doing!' As Foucault points out when you reveal to the hegemony they will accept the revelation whilst burying similar mechanisms much deeper and thereby less discoverable. So the worry I have here is that I may be exposing an affordance within YouTube of which the creators are not aware that is very useful and it revolves around the right hand recommended viewing. When you get your right hand column you may be looking at your favourite drummer, and you see something up there that disparately connects with your initial intention [both surprising and in context and of use] this produces this third thing, this new knowledge, this creation! This is a very human reaction to our interface with technology where you produce something that has synthesized two points and produced a hybrid third, rather like your John Bonham shuffle plus after you had watched his playing. Because the Web 3.0 can only predict on the data set you present via your interaction and views it cannot be aware of the vast amount of data in the form of crystallized intelligence and experience that you have in your head. So, you have the edge and can connect A and B and create a third thing using YouTube as a stimulus to enable a creative and non-predictable response by subverting YouTube to serve 'You' not it. That's what that right hand column can sometimes do. You see something there that you subvert in a way and make it something that you

have control over and you have connected not them. So instead of Google steering you for marketing purposes and you are going to watch the entire back catalogue of Frank Ifields greatest hits...You might not do that because partway through your meme journey with Frank you saw something odd...and creatively and uniquely or connected with it.

Int.I: Yes! It's a nice idea (Laughing) I am going to sound all of my 37 years and say that where happens or where that did happen...happens to a far greater extent whereby...When I was younger... listening to new music and listening to the radio and listening to new tracks and then on the basis of that one track buying an album, spending £15 on a CD to listen to the whole album and listen to 10 tracks the I had never heard before and I think that that is the thing that doesn't happen any more and to that extent that thing of hearing something that you have never heard before and as a human being putting A next to B and coming up with C happened to a greater extent with for more diverse input than happens now. As you say the right hand column is far more channeled towards your own preferences that it [thesis antithesis synthesis] happens far less than it did, I would argue. I heard some research about the nature of social media and the nature of group mentality and obviously we would hope that because people are communicating together that opinions would become more mainstream and everyone would get more into the centre of everything politics.

NRG: Arab spring.

Int.I: Well this is the thing social media is actually showing that what's going on is that people are going to the extremes...When people get together and converse they actually become more extreme rather than mediocre as they would be by themselves it is a huge global effect of the 'Men In Black' quote 'A person is clever...and people are stupid' and through social media we are all being very, very stupid, [Enantiodromia...everything when taken to its extreme becomes its opposite] At a political level it is very worrying at a musical level it is quite interesting it means that you have got this very mediocre thing that the establishment I guess is trying to make music as literally as mediocre as it can be, so you have the X-Factor and all this kind of stuff. But outside of that music is becoming more extreme, the more gigs that I go to I am seeing more and more extreme almost inaccessible music and yet that is becoming more and more acceptable. And it is interesting.

NRG: Again I'm returning to this God Like algorithm and there will be one for Facebook, one for Spotify. Spotify and Netflix do a similar thing, YouTube definitely does, Google does it across all its platforms collecting Big Data and now with tidbits going through their smartphones giving all of their bio-data into a position z of cloud storage so even your physical life can be stored, your heartbeat...The algorithm. And this is the mirror so to speak...The algorithm allows you to bounce your...So your interactions hit the algorithm, so if you can imagine it is shaped in a weird way so that it pushes some things and other

things it pushes further back...So it gives back only what it wants to give back from what you have put in. If you see what I mean and this God like algorithm that is guarded closely could be programmed to be very, very benign or it could be, instead of it being synoptic it could offer things back...Whereby if you keep searching for Van Morrison it gives you anything but Van Morrison in fact it starts to give you things that, you might need to world music from somewhere in Kenya or it could push you out into exploratory places that were initially uncomfortable but would eventually, hopefully develop you as a human that would make you link up with things that in your own parochial way that a lot of people are getting locked down by e.g. not leaving the house and Internet shopping etc. and all of this data being fed back to you on an endless looping of yourself. Douglas Hofstadter's book is a very interesting read but he puts the development of consciousness down to this looping... But I prefer oscillation like you find in a sound wave sometimes between a large distance and sometimes it is like a laser beam oscillation between just two or three points...This algorithm thing, it was my supervisor up at the institute who instilled in me that everything that is out there in 'cyberspace' was put there, including the medium itself, never mind the exponential content, we are all creating this phenomenon by being on board, so to speak. But if this algorithm is designed...(pause) I can't imagine it is designed for the betterment of mankind at the moment... I just can't, and as we know it can be tweaked and is, according to the little bits of information I have been able to pick up, ironically through YouTube. Wired magazine were talking to a YouTube representative and they were trying to dig into the what, when, why and who of the algorithm...the main thing he said was it's stop it being gamed and to keep control and make sure that people don't utilize it for the wrong reason, as they see it. But you can see that that really is where all of this stuff lies in the control of what's bounced back to us from that that algorithm and why. We are giving out naively large amounts of personal information, and we are only 10 or 20 years in, giving everything for free. And then it's being manipulated and bounced back. (Laughing)

Int.I: it's a worry. The thing...I mean...(sigh)...I mean if the algorithm itself can be made to...

NRG: It can be made to do anything ...To be fair.

Int.I: Well yes. And suggest something to somebody who only ever listens to churches...to listen to some 1930's Blues because actually you will find that, that's quite relevant and then listen to West African music because that's relevant as well and listen to Presbyterian music, because that's also relevant and if it were to suggest all of that...That would be great but I think the thing that's missing in all of that, in my opinion, yet again my 37 years coming out here, is where somebody be sitting on their computer going

in a YouTube hole and finding all of these suggestions in the right hand tab.

NRG: On a meme journey...

Int.I: Yes, and they find all of these suggestions. They would listen to them for, I would imagine anyway, a scenario when they would listen to each one for three seconds and say, I don't like that. And what's missing is the person that's sitting with them and saying listen to this and plays it in any way they can and the point is the listener doesn't switch off either because they don't want to let that person down or they are aware that somebody else is listening to it.

NRG: Or it is recommended by someone you trust...a mentor or a teacher someone who you believe is showing you a pathway in...which may be a bit uncomfortable but there is a pasture land out there that you need to get to.

Int.I: And it's not and that's such a visceral relationship that person is either there in the room or you will have to answer to that person as why you haven't listened to that stuff and so it's enough of a reason to keep listening and listen to everything and not to switch off and therefore to have your listening experience...your whole world in that sense changed and it's the person that makes the difference.

NRG: What about...Just let me think for a second....let's have a look at how humans make their world in the analogue world our feedback systems through our phenomenology and senses. Our input and output is through those things prior to this new technology. We've got here, we are used to the Sun, we have evolved with the Sun being their these physical constants like the Sun Stars and gravity, so let's get through all of that ...with the way we are and our social groups and the way we have learnt to stand up and sing and feel and talk. It seems we are constantly pushing data backwards and forwards, If we consider anagogic reasoning and make a comparison between the silicon world and the carbon based model. How does carbon...how did we, before this, because we were pushing data backwards and forwards between the organism and the environment...we have passed information between one another predominately using the senses until the advent of language. So what is the difference between that kind of data transfer and to move things forward, I found a way to use this stick to get this thing from here to here and then we can eat this fruit or I can use this stick to kill that person over there because he's from a different set of people which invariably you will find throughout history...So what are your thoughts on trying to see the similarities and differences between these two...apart from one being massively quicker and very invasive there's a much easier possibility of

spilling an awful lot of Data to people that you wouldn't. I mean in days gone by you wouldn't even talk to anyone unless you could see their eyes or face. You certainly wouldn't speak to anyone with a mask on because you wouldn't be able to read their intention. With this current world, somebody or something has convinced everybody that their data and online interactions are safe!

Int.I: I think... I mean the most interesting thing for me is the volume of it I think...and again I am repeating myself here, but when lots of people think together, strange things happen...

NRG: Groupthink...

Int.I: If you ask ten people the weight of a cow, at a village fair, and I forget who did this...anyway If you ask 10 people to guess the weight of a cow. And you can ask 10 very intelligent people, experts on Cow weight to get together and to come up collectively with the weight of the Cow, it is still a guess but they collectively work together. And what they found was that when they asked individuals, complete strangers, people who knew nothing about cows, just to guess. But if you took the average their guess was always more accurate than the experts, I forget by how much. We can solve things individually as an average than when we communicate together and I think that we did communicate throughout the whole of history but it was at such a low level, compared to what's going on now, the ease with which we can communicate the ease with which we can share, so quickly and at such high volume results in the kind of mistakes we make when people work together like getting the weight of the cow wrong, like bringing about the Cuban missile crisis...

NRG: Like the Nuremberg rallies they are all chanting 'Heil Hitler' because of group think, mob mentality that can manifest through social media?

Int.I: Exactly.

NRG: That's fascinating stuff...

Int.I: And I dare say the same is true for any problem...If you ask individuals...I think the C.I.A. did this, they have shut it down, but the C.I.A. had this website and it would ask everyone, people sat in their jogging bottoms eating Doritos watching the TV, will there be a coup in the Gambia this year, it would ask millions of people and at the same time ask a think tank of experts on the Gambia 'Will there be a coup' and similar questions and 100 per cent of the time, across the board, the general public when they voted individually on each thing, the average of their votes were more accurate than the think tank 100 per cent of the time. The CIA shut it down, I'm not sure why, but it was a very interesting lot data that when people think individually the average of every individual is always the best response.

NRG: Big Data is the new big thing at the minute. Data for everything. I am just trying to think how we have got this far with our smaller historical transfers of data through books and academic journals, Herodotus or historical perspectives left in print, Shakespeare and it has been very, very slow and thought through and we are still here and I would imagine with this acceleration of in the quantity and the speed of its transfer I think that might become a bit of an issue...Which is probably why they are looking at creativity to try and come up with something to ameliorate some of it's darker side of which the dark side is very dark indeed! I spoke to a very optimistic chap during earlier interview, and he was full on, he's got two YouTube sites, he's a musician teacher, but he's got two sites that deal with technology recommending tech or fixing your broken technology etc. And he is starting get revenue of £50-£60 a month, through hits. He's thinking, free money he films on his iPhone and fixes iPhone 6 show you how to operate it etc. so you can see there's that lovely thing, and he envisages a world where you will seamlessly move from one piece of mobile technology to the other whilst dealing with the same content...everything talks to everything all the time and everything is completely matrixes together, this is not far off to be fair. And all of your data is there. Which is great should everything remain politically stable and we know that not everything does (Laughing) and my thoughts on the indispensable multifunction substitute cash and passport phone are that it only takes the push of a button and you no longer exist! And you become effectively shut down. You are finished. (Laughing)

Int.I: Yes. It's a bit of a worry (Laughing)

NRG: Well it's the same with these fires. We light them and I like the fire because it's ancestral and the relationships between dogs, humans and fire goes back 20- 30 thousand (100,000 with dogs). And that led to the big brain meat eating...the whole thing. But just recently with the climate change issue they are talking about all gas boilers and definitely no fossil fuels, but I am sure one factory in China pumps out more Co2 in one day than I will do in my 70 years or so. You can see that shutting down me from something that is very human that radiant heat from fossil fuel. We digress marvelously yet again! (Laughing) Which I really like but we are going to get back on it! (Laughing)

NRG: I have to address the Frankfurt school's dystopian Neo-Marxist take on technology and it's uses and abuses along with Martin Heidegger's seminal text on technology in the thesis. Because I have to agree with Adorno and Horkheimer's perspective: That technology is used for man to dominate man...That's the whole purpose of it...In the end that's what happens with it [technology]. And I find it hard to disagree with, when you think about it, whatever you mean by the word dominate either fiscally, physically psychologically [phenomenologically] you allow an Arab Spring to go ahead or alter your algorithm to make everybody suddenly not be happy, (Laughing)...

Int.I: Is it called the Turing Revolution that we are in at the moment?

NRG: Yes...Turing! That man...

Int.I: That for the first time we're faced with things that can carry out mental processes better than we can. And presumably there will be computers that can solve all the world's problems better than we can.

NRG: Well at that point it [technology/AI] will very much have a vested interest in moving it's [technology / AI] and keeping itself alive! There is an Isaac Asimov moment if ever there was one! Anyway moving on...Let's get back on the train here! How would you best explain the possibilities provided by new technologies within music education to a new entrant into your profession? What would you tell somebody and has [technology] changed your practice at all since 2005 where you have got this resource? The essence of the question is: What value do you assign to technologies such as YouTube as a digital Ark, asynchronous, ahistorical and decontextualized resource in relation to the advancement of musical teaching and learning? And this abdication of freewill to the algorithm of Google..is not necessary because despite the algorithm, or whether you adjust your privacy settings or whether you continue to accept Web 3.0 recommendations, you still are free to chose would ever you wish to search for in your initial search...the steering can still be ignored! And in doing so, in peppering your search history from disparate and unconnected almost random searches you then get that stymie the predictivity of Web 3.0 and it's allied advertising! There is no fiscal gain for Google in you becoming unpredictable! There was one interviewee who is into world music and he manages to find esoteric YouTube uploads with as few a seven or eight views! This type of search produces a very unusual right hand recommended selection.

Int.I: Yes...

NRG: So, It's this face off really between your own creativity and individuality and intrinsic drive to use this Cabinet of Curiosities [YouTube] for your own meme journey or whether or not, but I am seeing across the board that most people are just going with these marvelous apps that lead you a merry dance and it seems that the nature of humans, like a flock, you can see it in a shoal of fish went one kinks, they all kink.

Int.I: Exactly .Yes.

NRG: That was that mass...' and they are not so wise...And I think Ayn Rand 'Atlas Shrugged' her quote was that she detested being at the mercy of '...the tyranny of crowds'. And she was a great believer in the individual and individual choice as to what to do with their time here on Earth. A 'Tyson Fury' moment in the philosophical world. But the problem is about the amount of power and money that there is in the phone that's it's tapping into our evolutionary ticks, it knows how

to distract and to direct towards the designated place. Which is a central tenet regarding the Right Hand recommended bar and this is it's distractive powers...the whole page seems to be designed for distractive purposes. In order to keep you moving and almost like a grazing commodity...Interestingly when the phone is held in portrait on the mobile version of YouTube you do not see the recommend content column and landscape you do. It was raised to my attention by an interviewee, and this is the beauty of these interviews you get differing perspectives which is the beauty of humans. And the worst scenario would be if we all changed into a very similar thing and the joy of our diversity and is why the world is the way it is, but if we as humans start to become synoptic and mass morph into a mono-cultured herd in deed and thought...that would be a problem from my perspective. Surveillance by drone aircraft in the 21st Century is like the catholic church of the 12th Century where God is omnipotent and omniscient making sure you are not becoming a problem!

Curiosity was originally banned by the Early Catholic Church as a sin! Because people would get curious, and this is where curiosity links with creativity / Destructivity or a synthesis of the two (remember even 'the opposite side of the coin has an opposite side' Now you see it) Oh! I wonder what my neighbours are doing in their house right now and this invasive thought and action was frowned upon mainly because it would readily lead to curiosity about the Church and why they were or were not doing and I suppose eventually the existence or not of God! And the discovery of the Church and its ultimate enforcer God were or were not a man made control mechanism...Now as they say 'Technology is the new God' and questions need to be asked of it. We have gone off track again!

Int.I: Sorry yes, you were asking about what advice I would give...

NRG: Because of the stuff that's on there... you are not on there [YouTube] strangely! And why not?

Int.I: Because there is a million other people...If you want to watch somebody do a paradiddle...To be honest what I would actually say is watch Dave Weckel do it. Which is actually a video, it was originally VHS, he did that in a video called back to basics and that did all the stuff that I would ever teach anyway. That I would ever want my students to see.

NRG: And have you ever recommended that to students for real?

Int.I: Yes, yes if you want see a double stroke roll done really, really well then look at Dave Weckl and you will get this guy doing it in 1991.

NRG: It could be 1931 really it doesn't make any odds.

Int.I: Yes, exactly and that's been put up on YouTube. (2-mins+ discussion on left hand military drumstick orthodox grip)

Int.I: With regards to YouTube I would say to anyone that it [YouTube] is a tool. In the past you used to have to get a VHS player and play it to somebody now you can click and it's done.

NRG: So do you think that the understanding of YouTube and the understanding of all the big data collections and algorithms and metrics and an understanding of the people who own the search engine infrastructure of these supposedly benign free to use...There really is no such thing as a free lunch. Maybe some people just blunder through quite naively and therefore to the innocent everything is innocent so to speak. Other personality types the phone is by their bed they are never down they respond to every tweet and YouTube comment. So again we return to technology use and differing personalities. But maybe with a bit of education so that they understand and a little more transparency from Google it might be less problematic, but it wouldn't prevent Twitter enabling another Arab Spring and that mentality of the tweet fuelled mass migration from Syria via Turkey and Greece to Germany because Tweets were sent saying 'they are letting us in' and as such triggered an instant-gram diaspora to the West.

Int.I: But the other thing I would say is that nothing can replace the effective of having an actual living person there and for that living person to be the inspiration that is why that person turns up every week, why that person checks out YouTube, why that person is interested in music at all. I do think that a good teacher is somebody that is eventually able to, whereby there student eventually begins to teach themselves but the reason they do that is because of the inspiration and the enthusiasm and the impetus to do so given to them from their teacher in the first place. It's that thing of an individual being the inspiration of why you would then go ahead and watch YouTube can't be ignored.

NRG: Because some of these sites are hosted by very personable people. And often a YouTube channel's success hinges not on the content quality or its accuracy but on the geniality and teacher style of the individual host. And probably some YouTube students go on to imitate, emulate and innovate if and when they open their own YouTube channel in the style of their mentors channel

What are your thoughts on students from a variety of socio-economic background self-sourcing YouTube tutorials and learning the latest lick, trick drum groove or Beyoncé chord sequence?

Int.I: And again it's fantastic that it's there...

NRG: And they will return and play them...they have no theoretical underpinning but they will learn and in some cases master them using a variety of methods including drop down digitally stooped piano rolls and the like...

Int.I: And it's...

NRG: Is the means justified by the end? Are we in a new paradigm with these kids learning almost autonomously of a mentor and inspirational teacher? Are we going to get a generation of students who learn independently of traditional pedagogy and that personal relationship and have a relationship with a self-reflective screen?

Int.I: I think the problem with new autonomous possibilities is that it relies or it is dependent upon a person's attention span being no longer than about 2 minutes really to sit and look at...I know very, very few students that can look at an instructional video an hour as they might in a drum lesson and I think it's, YouTube is a new ingredient that can inspire people.

NRG: So is it as an enabler?

Int.I: Yes.

NRG: So you can find a level that you can go in at a very simple level and go on to people interrogating a piece of Chopin at post degree level!

Int.I: I think it can do all of those things and it can and will inspire people to do so. I think the people that it will...if we were to have a generation of people that have learned that way...You could argue that because they have learnt that way, a non-feedback way there is not somebody watching them saying that looks great but you should try this there is something lacking.

NRG: So you are suggesting there is a lack of a community of practice they do exist on YouTube where you can interact live with other musicians. But even though broadband speed permit this it appears to be very rarely done.

Int.I: And I have seen those things whereby people put themselves up and they ask for comments about how to improve their playing and the problem with that is that you get, and once again it is group mentality, and it is people, and it features in 90 per cent of the examples I can think of, the comments are abusive comments, argumentative comments...

NRG: Non-constructive criticism!!

Int.I: Yes...that thing with the average response from each individual can't exist because it is publicans so the reality is the extreme opinion...Which always ends up being the...

NRG: And I suppose with the comments you will end up, rather like '...send two and sixpence were going to a dance..' with distorted like a generation loss on each one, [each comment compounds, influences and corrupts the veracity and validity of the next] thus removing the focus from the actual performance or question...By the end of it they have drifted onto unrelated issues of Jimi Hendrix in 1967 and his inherent tuning issues! And they have gone from this kid playing three or four chords. Because of the relationship between the commentators and then the response / retaliations and then the shift and then the non-sequitur and then foreign language inputs and so it digresses and goes on.

Int.I: Yes. Massively...and you see this across YouTube all the time I very rarely seen constructive comments on YouTube...

(Interview resumed after comfort break at 15:25 pm)

NRG: Can you remember when you first used YouTube or when you first went on YouTube and if you did, but you can't...was it out of curiosity or necessity and was it for your own personal musicianship or professional practice or both?

Int.I: I must admit I can't. I remember...I remember that it wasn't the only video streaming site in the world at that point in time. I know, I know it is now ...but it is certainly the biggest and there were others and I didn't really care what site it was I just kind of wanted a video...

NRG: So, were you an early proponent 2006-7 when you went on it or were you later?

Int.I: Erm...I'm trying to think...the very first time...I can't honestly remember the first thing I saw on video on the Internet at all. I certainly can't remember the first thing I saw on YouTube...I am trying to remember the very first thing I can remember. Most likely it was a cat firing a machine gun ...or something like that...Something utterly irreverent and pointless would have been the first thing I would have ever seen...From a musical perspective it would have been roundabout 2007-8 I was aware...

NRG: did you look at some of your hero's?

Int.I: Yes. I remember 2009 very strongly kind of...er...getting into that YouTube hole and finding all these drummers that I used to listen to when I was a teenager and seeing all these drum solos, very, very horrible music, entirely music made for drummers, y'know. And watching that a lot.

NRG: Patrick was there then, he would have been around in 2009, he was already I-padded and I-phoned up.

Int.I: Exactly, yes and I remember him kind-a showing me things and I would say 'wow that's amazing' and he introduced me to actually, a whole series, I think it's actually a TV programme but shown online where 'Dream theatre' were looking for a new drummer and every week they auditioned a new drummer and every drummer they auditioned were technically speaking the most accomplished drummers in the world... they started with Mike Mangini who holds the record for the fastest single stroke roll in the world, a chap called...

NRG: There are a lot of German drummers cropping up lately on the Internet...

Int.I: Very technically proficient drummers, yeah. Virgil Donate an Australian drummer who is widely believed to be the most technically accomplished drummer in the world...and it was drummer porn...watching these incredibly talented drummers doing these ridiculous things in a musical context...and I loved from a purely technical point of view...but musically speaking it was disgusting...

NRG: Yes, but with YouTube you wouldn't get to see those people do that thing and the thing is that you have already done your 10,000 hours plus, you have done your ten years and more that when you look at those things you are looking at them with a very educated eye and ears, you're not just looking at some disparate skill like how to clay pigeon shoot! You've got an awful lot of muscle memory being triggered in you...your mirror neurons are kicking off left right and centre...if you were to watch that long enough you would probably get physically tired...That's the thing about watching things on YouTube it has a visceral effect on you.

Int.I: I am a big subscriber to the theory that we do remember everything that we experience.

NRG: Yes. But I mean where can it go? We can't offload anything I mean the brain. The triune brain shows we can't get rid of the old stuff to put in the new.

Int.I: No that's not how it works...

NRG: Junk DNA is still with us despite its long time redundancy!

NRG: What is your balance between rationality and your intuition when using new media e.g. YouTube or it could be anything along that line. Do you always think rationally or do you sometimes just think to yourself...that looks like an interesting thumbnail, by the way there is a lot of thought that goes into the thumbnails, YouTube spend a lot of time on creating an appealing thumbnail.

Int.I: The most relevant example of that, speaking of Derren Brown was the programme called 'The system' I am about to use this system of flipping coins to win money on horse races. He flips the coin 10 times, each time it landed on heads and I shall now use this system to pick the right horse.

NRG: And you believe that of course?

Int.I: And I believed it...and what it actually was, and what nobody could believe at the time but it was 5 hours of constantly filming, constantly flipping a coin and trying to get it right ten times in a row and that's the magic of music when I watch Dave Weckel doing his thing it looks unbelievable. It is that magical thing of taking away the mundanity of life itself and makes you believe in something that is supernatural...makes you believe in something that is greater than the world itself and makes you believe that there is something more special than how rubbish your life is right now and I think that's what music is all about...It is escapism it is alcoholism...

NRG: It's another world. It's one of the few escapes, without resorting to Freud's only escapes being Death or Narcotics. Music is a parallel to the world. Music moves through time but you are physically stationary, but it has a journey that you can take inside your head the journey come to an end and you are still where you are, but you have been on a journey.

Int.I: Yes. Massively. A Musician can do that because of thousands of hours of practice, of mundane practice of things that most people don't believe that they can do...

NRG: Well it's the same as the Prep for the Penn and ~Teller Illusion thousands of man-hours. Whereas the individual musician spends thousands of man-hours developing their musical sleight of hand!! Constant refining, repetition and feedback to enable the illusion of music to manifest itself without glitches. Revelation of the process is like seeing the out takes from a movie it shows the process as possible but expensive...

Int.I: It's mount impossible to quote Richard Dawkins. If you were to look at the way the world is it looks incredible it's like standing at the bottom of a sheer cliff face and looking up and thinking that's unbelievably high how can any one climb that...

NRG: In 4 billion years you might get there!

Int.I: Well if you go around the side you will see that there is a really shallow incline that leads to the top. Musicians are able to manifest these seemingly

Incredible skills because of the thousands and thousands of hours of practice. And now with the Turing Revolution [4th age of communication] we are so used to concentrating and learning for 2 minutes at a time, in sound bites and video snippets, that commitment to the prospect of thousands of hours seems to be missing in children that I teach. So as soon as the student realizes that this isn't something that they will get quickly their interest seems to drop off. And that's were going back to the individual steps in and says regardless of your experiences of YouTube, you are going to learn from me...

NRG: So do think that someone like you as a seasoned professional music educator allied with technology and student, or in my case, students. How does that triangulate could you use your crystalized intelligence and their fluid intelligence within a framework of professional pedagogy and technology to improve and increase the pace of musical learning?

Int.I: Slightly, I would say.

NRG: I should imagine with judicious use [that combination] is going to accelerate and deepen people's perspective as long as there is somebody who has been and done the hard yards...

Int.I: Yes that's the thing.

NRG: And then there is a point where the offspring then becomes the person who does the hard yards and they will then press the button for somebody else.

Int.I: Exactly.

NRG: If you were to hypothetically...there is a word 'affordance' where people can see alternate pathways from visual clips other than those intended. Do you think it is possible for you to put together a set of visual clips that would as an educator allow the students to independently find the hidden affordances within the educational materials? For me the famous one I use is the Truman sleeps then the melody from Frank Sinatra's 'I get no kicks from champagne' it's exactly the same melody as in Truman sleeps. So you put those two together using YouTube and allow the students to make the connection.

Int.I: Exactly and I've done that with the funky drummer...

NRG: Due to the comprehensive nature of YouTube as a digital Ark there must it be an ever-increasing repository of serendipitous affordances awaiting bi-association and connection via their initial perception. YouTube is 99.99 per cent in the past by its very nature. And yet you can juxtapose and map the past and present almost at will and with consummate ease like never before in history. YouTube as digital T.A.R.D.I.S. Affordance is always there the perception to reveal it is not always.

Int.I: What an incredible thing. With the Funky drummer I have done similar things. Here is the original groove you hear it sampled by public enemy and so on and so forth so the student hears the same thing being played again and again being played in all sorts of different contexts and why this is actually the most played groove in the whole world and therefore that is why we are now going to learn it. It does still require that person [either side of the medium is a human] to put that experience for the student together and requires the attentiveness that which brings the student into that thread is the person rather than the thread itself. If that makes sense because we're a student just to listen to that thread, if they can make that connection that is great, but what if they can't? Then it still needs that person to say.

NRG: [abridged]...Well this is the thing. They have done some TPACK research using affordances and YouTube in maths teaching all meticulously planned. Discussion on ad hoc unplanned use of YouTube online classroom situations. Most interviewees prefer safety over spontaneity. The upshot of TPACK being Tom's point what happens when they don't see the preplanned affordances and can't make the intended connections? This is a MKO step in point but some people see ambigrams some people don't! Possibly extreme autism everything becomes an ambigram where spandrels abound. Refers to Creativity and madness refuting stimulants relationship to creativity.

Int.I: Where I am from in Scotland we have a view of the river Tay which is famous for its rail bridge, this old Victorian rail bridge, next to it is a previous bridge that was knocked down in a storm and all the stumps of the old bridge still remain, and they are all to the East of the new bridge, so you've got the new bridge just next to it the stumps of the old bridge. On a very calm day the water reflects like a mirror, and I see the stumps as being on the East side, the near side of the bridge. Apparently if I was brought up in Africa or somewhere where I'd never seen purely straight lines...a rural place where even the horizon is slightly curved Int.I: would actually see the stumps on the other side. It just shows that you're upbringing can affect which side of the river you see these stumps [perception as Nurture?]

NRG: When using YouTube or such like sites how important is it to follow your instincts or do you sometimes find this approach misleading and sometimes in a teaching situation compromising?

Int.I: The plan is always on that student at that time.

NRG: So you take into account the whole 360-degree situation all the variables and you put that into the mix and that is the beauty of one to one tuition. The un-beauty of the 30 to 1 is the differentiation spans.

Int.I: And I don't have an answer to that.

NRG: Not many people do...Including Bloom 1983 'Sigma 2 problematic'. He couldn't replicate one -to - one progress. Still haven't.

Int.I: I don't know how anyone does to be honest!

NRG: How much time do you spend using online media such as YouTube?

Int.I: I mean I dare say I go onto YouTube every day but I don't think it would be for more than a few minutes. Really, it's usually purely as a leisure time think. I don't use it massively as a practice tool, really. And I dare say it's just because I am really just a bit old school when it comes to practice. I sort of have the things that I practice and have the directions I want to go.

NRG: But do you think it's a thing about it not being about how much time you spend giving your knowledge. Like for me if I've got a problem I'll spend very little time lifting what I need from YouTube then I get back offline and back to work, as I have taken what I needed from maybe three or four people each of whom had a small part correct but other parts not and patch together. Often the source can be a struggle if the audio is poor etc.

Int.I: To be honest I use YouTube more as a listening tool actually than a visual tool anyway because all the worlds music is pretty much on there albeit at a terrible quality...Hearing the grooves is much more important than being able to see it. And that's because of the way I have learnt, I was taught to listen to music and taught to transcribe what I'd heard and taught to play from hearing it and from reading it and not from watching it on a screen...

NRG: So how do you think children are going to be now? Because they are not going to be possibly like that.

Int.I: No.

NRG: I mean there are a lot of kids propped up with an I-pad and their electronic drum kit.

Int.I: It's very interesting I don't know.

NRG: I don't know what it's going to do for reading. Or how it will affect the human relationship between the teacher and the student?

Int.I: I suppose it is the same question as what is going to happen with the English language and the written word. Because written music was how music was recorded, it was the tape player as books were and if you look at the way the English language is

now it is totally acceptable to have appalling grammar and to spell things incorrectly. Because of the advent of text messaging. The written word is now very different from what it ever has been. And similarly music notation would be the same thing where it used to be this absolute carbon record of a piece of music it can only now be a bit of a representation in the same way as a tweet is only a bit of a representation of what someone has actually said.

NRG: A version...

Int.I: I see the notation that kids write...and it makes sense to them y'know, it doesn't musically speaking, it's not right it's not technically right, just as twitter is not correct grammar or spelling but you still get the message across. A bit of me thinks in a same way that the establishment has taken on board social media, well maybe it doesn't matter. OK. this is the English language evolving this is OK. And perhaps this is OK. with written music, because actually that ability to write down a carbon copy of what the piece of music is, is obsolete now and has been for decades really because we have been able to record music for a long time. But now anybody can, you don't need a tape reel, you don't need a venial cutting machine you just need your phone and you can get a pretty good recording of absolutely anything and to that extent the written notation is obsolete and is only necessary as much as people need it to be in the same way as the written word is.

NRG: Well presumably if you can't hear or see the person playing it then you might need [music] but most people now can see and hear the person playing it at the same time.

Int.I: Exactly.

NRG: [abridged] Explanation of quadrant screen instrumental online tutorials.

Int.I: One thing I would say is that I am still a bit of a stickler for written music just as some people are sticklers for written language and that's because I think, personally I think that to really understand music, at least from an historical perspective is to understand written music because that has been the mode by which people have used to write music and actually make music and an understanding of music in the written tradition gives further depth and understanding of music at least from an historical point of view and I dare say that the same is true for language as well.

NRG: Another medium is changing sound into a 2 dimensional graphic representation and that takes a leap of imagination and cognitive ability to be able to see the sounds. You have to be able to construct that analogy between what you are hearing and the image you are seeing and once you've made that connection...

NRG: Can you recall an innovative or creative use of YouTube in an educational sense [percussion] that was both surprising and effective? That couldn't have been done without YouTube? [10 minute break]

Int.I: The example is down to the personality again...Those Burnard Purdey videos...He's a very engaging man and unbelievably enthusiastic about music about his art he's very funny, he's a bit camp and very engaging. And the students are able to look at him and it's not some boring guy playing a groove it's a guy being hilarious and playing a groove!

NRG: And again this hilarious man would not be met by your students nor would he have any kind of effect on them without this transmissive force, YouTube, it's a dead transmission as such, you can't interact with him, it's recorded! But there he is as large as life apparently talking directly to you!

Int.I: Yes. And that's great and it does...And it is a tool a useful addition to a lesson. I think if you could meet him imagine how inspired you'd be and imagine how amazing the lesson you would have with him would be if he is that good on YouTube. It is a massive dilution. When you watch Bernard Purdie on YouTube it is 1 per cent of BP just like the music you hear is 1 per cent of the audio information that you would be getting if you bought the vinyl. But still 1 percent nonetheless you would have it if you didn't have YouTube.

NRG: Would you prefer if you were going to watch him play, if you had a high quality audiovisual YouTube clip allied with a fast computer so all is good. If you had a choice of purely listening or watching with exactly the same quality audio which one would you go for?

Int.I: Personally? I'd rather just listen to it.

NRG: Even though the sound is the same? So you think that the image is going to distract you?

Int.I: It's what I've been brought up [generational differences X, Y etc. Digital natives] on in terms of listening to abstract pieces of music. And to be honest when I'm improvising or playing I do it with my eyes shut. Because that's how I like to experience music and for me it's not a visual tradition...I know it is but the way I have been brought up...

NRG: For you as a musician ...No...But for the audience watching you it is!

Int.I: Sure! But when I'm playing I'm listening to what's going on and I can't listen to what going on as well with my eyes open. If I'm trying to recreate a sound I can do that better with my eyes shut.

NRG: No but don't you ever get distracted by the sound. You hear something in there that you think either shouldn't be in there or should is odd. If you are not seeing something out of the ordinary are you more prone to hearing something out of the ordinary that leads you on to something else?

Int.I: Yes. There have been occasions when If I am to understand what's going on there I am going to have to see it. And then you see it and then you realize that actually is because he's got some backing track going on or he's got some extra thing on his kit. Something going on that makes the sound possible. But generally speaking, and I'm sure it's just an age thing, I would rather just listen to it.

NRG: How much do you value the advent of online musical facilitation e.g. has YouTube altered your perception of the possibilities for your musicianship and you as a music educator?

Int.I: I am sure it has, more than I am aware, if that makes sense. In that I am very aware of a lot of the ways That I think and I do things and the amount of time I can concentrate for and how I concentrate and all of that stuff is very much affected by technology in general and my experiences with things like YouTube.

NRG: But your students are going to be massively affected. They've been born into this world. I mean some of them now, I mean 2005, how old are they going to be ? They are going to be year 7's born into a world of YouTube...

Int.I: Yes. Nothing but YouTube...

NRG: Yes. All the time to be fair in primary school that would have hit YouTube years 3 or 4? So they are well versed in searching for the latest cat video or whatever! Or music thing. So they are going to bed coming to you to learn the drums with probably having seen Louis Bellson and Buddy Rich and the whole lot!

Int.I: Or more likely the Muppets and things like that...and I think to that extent [YouTube] is a tool, repeating myself again, and a tool that is relevant to that student if it is relevant and if it's a student that says 'Aw! I saw this on YouTube sir' and then finds something on their phone...Then absolutely it is a tool to be used in that context. I wouldn't say it has revolutionized my approach to teaching or to music in anyway...Again I'm...sure it has more than I am aware of but...it's only as relevant to me as a teacher as it is to the student.

NRG: So, what are your thoughts on that the thing we spoke about before we started recording. The difference between the attentionality continuum of distraction at one end of low level shifting around of the eyes and not being focused on anything and then the other end being high level focus and concentration on one single, sole thing that you've got to accomplish. Where

do you see distraction fitting within the world of musical curiosity and possibly creativity in its broader sense from that? I am imagining you have to be distracted to or from something in order to effect any change in anything. Like with the singularity then suddenly there was a big bang...something changed and there is a push and pull that threads through the world. Presumably, for want of a better world, curiosity is a more intense distraction where you have been distracted but you scrape back the leaves a bit more because for some reason it has held your attention, and you have not been distracted to by something else and you are not oscillating between two or more points...Then you may or may not proceed and become more focused on the object of your initial distraction / curiosity. It would appear that in education and in learning anything in order to be an autonomous learner as well as heteronomous you do have to nurture this capacity to shift your perception and lock on to something novel and find out whether you can perceive any affordances contained therein for the musical endeavour upon which you have embarked. And if there is can you make the call on whether or not that distraction will be efficacious to you going forwards in the way that you want or did you get wrong all without a mentor present! Should that be managed in a sense should that...ADHD kids get massively distracted but research shows them to be highly creative. Should we hear a teacher say 'I require your complete attention...do not be distracted'?

NRG: So, in a nutshell...what are your thoughts on Distraction as a catalyst for the novel and creative thought?

Int.I: There is a book called a Kestrel for a Knave that was made into a film called 'Kes'. Have you seen 'Kes'?

NRG: Oh yes. Subtitles not required!

Int.I: When I read the book they used a still image from the movie and used it as the front cover of the book 'A Kestrel for a Knave' and the still image was the still image of the main protagonist putting up two fingers. And I have a friend who is a bass player in one of the bands I am in, but he used to be in a very big post-punk band. But he now works and earns his money as an educational consultant on discipline. And that image of the little boy putting up two fingers is his Facebook image now I've never asked him this, but what I have read into it is, the ability of the next generation to do exactly that... is absolutely vital it's a necessary part of being human. It is unbelievably important, without that I dread to think what would happen! So if I have a student who has ADHD whose attention span is really more than a few seconds it's absolutely not my job, nor concern to demand anything of my students, I use that I guess as to shepherd, and as you say if someone has ADHD they are probably very creative. I can honestly say that I have had some very accomplished students who have been diagnosed with ADHD. And sure enough they get into trouble at school and all that kind of stuff ...but for them playing the drums has been a kind of outlet for their aggression or anger that they may be feeling. And just something that they are very interested in and I wouldn't presume to demand the attention of someone...It's my job to

find whatever they are focused on at that time even if it only is for a few seconds and to use that.

One example that I can think of...I had a student from a Romanian Roma Gypsy background whose attention span was very, very short and it was my responsibility to maintain his interest in the drums and to maintain his enthusiasm for playing even though he had no, he wasn't able to count, he couldn't count to four he couldn't count four bars, he couldn't coordinate his limbs, he couldn't think of playing a groove in any kind of way. And it wasn't until I thought, 'Now hang on a minute!' he's from this sort of Romanian background, what if I asked him to show me the kind of music that he listens to. And through YouTube he played me these musicians, these drummers, that he is actually related to that play this, I mean it's all in four but nonetheless the emphasis in the bar is very, very different, very kind of rhythmically different to anything that I had been trying to teach him, all the Michael Jackson stuff, and I said right then let's learn this and I started to play this kind of Romanian dance clave to him on a drum kit and he actually burst out crying, he was so, not just impressed but he had suddenly found a whole new enthusiasm for this instrument because I was playing something that he actually recognized.

NRG: So, you put his culture in context. You had managed to find his cultural world and translate it through the drum kit. Bring from Romania through YouTube and into the room you were in.

Int.I: Now as a classroom teacher that would be impossible to devote that much time to one student within 30 mins but as an individual teacher I was able to do that. And with hindsight it was really obvious thing to do...and why didn't I do that thing before? I should of done. The nature of somebody with ADHD whereby they can't necessarily focus on the exact thing that you want them to is by no means any hindrance or any negative or reason for any negative experience whatsoever.

NRG: [abridged]...It's interesting this is leading me to think about the individual you have been mentioning and the plural and the huge masses of people that lurk and watch, billions of people look at YouTube but hardly a small percentage of individual uploading. There is a disproportionality between the lurkers and the uploaders. And it is being increasingly professionalized at the moment. They are disguising it as best they can but the big companies are putting up professionally produced and edited videos in amongst the genuine YouTuber. Businesses using YouTube as a professional platform to generate income. (Laughing)

Int.I: It's more than that! Even regular Vloggers that put up content are being paid by companies to advertise their products during their Vlogs and blogs. And if that sounds that they are playing or the strings that they are using or the cymbals that they are using. Even the most amateur or basic of YouTube videos are commoditized in some kind of way.

NRG: Yes. As I mentioned earlier the respondent who has a £50 a month income from his YouTube sites. The disproportionality now shows how the very few influence the very many. [Abridged]... The re-contextualizing capabilities of YouTube as an asynchronous archive were fully utilized within the vignette of the Romanian child and the use of YouTube in connecting the student and teacher through apposite media retrieval absolutely impossible to do before 2005 and the ubiquity of handheld interconnected recording and transmission devices. The medium itself seems disinclined towards equality. The medium the system seems to favour itself and it's own means to its own ends.

Int.I: And I suppose that can only get worse as YouTube and the Internet becomes more commoditized. The Internet is becoming so 'slow' because of all the junk, viruses etc. it is slowing down to the point where someone will make a bid to own the Internet under the auspices of speeding it up!!

NRG: But if you take the analogy to the world, that when you arrive as we have, you arrive when every single square foot already belongs to somebody. And then we arrive, you 37 years ago me 56! When we arrive everyone has their plot. So are you suggesting that the virtual world will shortly become the same with every single square foot of what is supposed to be emancipation, will be owned by someone or something!

Int.I: Absolutely!

NRG: And each with their own sovereign domains...for instance who or what is going to remove Google from its pedestal? It has taken thousands of years for the world to become political locked into its sovereign states. The Internet has accelerated this to just a couple of decades! So the majority now can only really participate as a consumer!

Int.I: I forget...I think it was world of Warcraft where somebody sold their very well equipped avatar on e-bay for hundreds of dollars somebody worked out if you monetize, assign a value to every character on Warcraft according to their skill level and possessions and all that kind of stuff the GDP of WW Craft would be greater than Bolivia...or something like that! And likewise Second life where you can actually exchange Linden Life Dollars for American Dollars, such that land, shoes and cars all have an actual monetary value and you can actually buy and sell! And of course there is only one company owned that stuff...I dare say that land quantity is ostensibly infinite but it is still Linden that owns it!

NRG: Virtual real estate of an expensive online community! Like Hollywood!

Int.I: And already owned completely outright.

NRG: Interesting!

NRG: OK. last one! Are there any observations, illuminations curiosities or insights on the use of YouTube within your world as a musician or music educator within the field of music education or a specific domain, instrumental, composing, appraising that you would like to share?

Int.I: Blimey!

NRG: I give you some help because the rider to that question is: What would your life as a musician or music educator be like if your access to YouTube was completely withdrawn and that same facility did not exist on YouTube or any similar such platform?

Int.I: It would be a lot more expensive and it would be a bit slower, in terms of getting hold of music and musical examples...

NRG: Speaking of slow (Laughing) It's generally thought that the quicker somebody can assimilate a new skill or ability...That speed of learning has always been held in high regard. It's generally the person who get's 'it' quickest and not the one who get's 'it' in the end. So am I to take it that YouTube get's you there a bit quicker?

Int.I: Yes.

NRG: so like the famous quote from the 'Incredibles' 'If everybody is a superhero then nobody is' which brings us to access! And has or will everyone ever have equality of access and sufficient knowledge and skills to utilize what is available on the net?

Int.I: The question of access is only a matter of time. Facebook have giant planes communicating by lasers at 70,000 feet so maintaining global Facebook connectivity. And Google are doing the same with High altitude balloons. Everyone should have access to a computer and if that doesn't exist now then it will do very soon. I don't think it is a question of access. Again I am going to sound like a very old man and I am a bit of a stickler for the old tortoise and the Hare story. Like there is nothing wrong with being slow. Michael Tippett the composer had he died aged 45 years He would be remembered for nothing and now he is arguably one of the most revered composers of the 21st Century because everything he composed was between the ages go 45 and 95 and whilst speed is important and an age...I don't think anything can replace perseverance personally.

NRG: Yes you will need it! Fascinating.

Int.I: For the vast majority of people that person cannot be replaced as an inspiration and the sense of not wanting to let another person down, punctuality, and camaraderie.

NRG: Just a thought on infantilizing people. So the professionals' set up music educational YouTube sites, with the primary purpose of selling piggy backed commodities using education as the way in. It seems that the main issue is that the uploaders are not representative of the consumers! Maybe the people who could upload and thereby increase the breadth and depth of online content should! That includes You and Me! Egalitarian uploading required! [abridged section]. What if like the visceral world everyone became a little part of the virtual world by contributing to the digital Ark as best they could?

Int.I: It sounds utopian. It sounds fantastic. My problem with Utopias is that it is a bit like the idea on which the Internet is based is this kind of environmentalist approach [ecology of resources] that nature is imbalance that nature is imbalance and if everything is taken as equal like a Hippie commune where everyone is equal, which an equal say and an equal share in the utopia. The thing is that it all breaks down because some people are stronger than others and some people are more outspoken than others and some people are more aggressive than others and that utopia falls apart very, very quickly and you can't change the fact that human beings are human beings and that there is power involved and greed involved and there is aggression involved and the same world problems that affected the world affected Utopia...

NRG: As they will affect the virtual world. All I was looking for a representation of those very, very things. That's the thing there is not enough variety of perspectives from the music education sector. Just seems strangely parochial despite its global nature! Trying to upload what you are supposed to be doing unreality almost requires two lives one digital and one analogue. One foot on the train and one foot on the platform .The analogue and the digital are not that compatible at the moment it is almost like we are consumed by transferring biological data into the silicon world of 1's and zero's and it is taking some time!

Int.I: If we did fully represent the animal as the digital we would have A.I.

NRG: Yes. Precisely. Like us but not us that would live it's own life!

Int.I: And presumably begin to have all the same problems!

NRG: Well if flip it. Imagine. If we had started of as digital inhabitant of a virtual world and we set about constructing the biological world!! And we start to populate the place with biological constructions like polar bears. And Oh! Let's have a rainforest over in that corner. So the artificial creates a biological artificial world for itself to rule and somehow inhabit. They would see their world as, quote unquote, real and the other bit, the

analogue world they are busy creating it would be 'Hey the latest bio-tech has helped us create things that live and breathe we call the animals'. Just like our discoveries in computers and physics 'Whoah! Look at this these things might one day think on their own ...Yes let's make a mosquito!' Great science fiction story start!

Int.I: Yep...but is there somewhere in the multiverses where this has indeed happened?

NRG: I don't know (Laughing). The virtual world and it's construction is selective in what it includes this world is warts and all! Pollution can't be in there but as you said may be the slowness of the net due to viruses etc. is the equivalent. NRG: So it would appear we are creating not a utopian emancipatory egalitarian virtuality we are just reimagining all our failing and successes in a different format of 1's and zero's. Charlie Brooker here we come!

Int.I: As long as humans are involved that will always be the case!

NRG: Yes but presumably if you reformat the analogue world well enough and the analogue chokes itself the virtual world may be in science fiction terms our final refuge from our own profligacy! Download to a Spaceship and off we go! So this is the

NRG: Maybe that's the trick! This is the secret of life and how all this came to pass! The virtual creates the analogue and the analogue creates the virtual and so it goes on!

Int.I: And that's the answer to what's it called...the 'where are they' problem!

NRG: What they do is, it would appear that the analogue turn themselves into bits and then post themselves off to some godforsaken place and then they come up with the bright idea of re-inventing the analogue and then the whole thing starts again!

Int.I: There we go solved!

NRG: (Laughing) Well who'd thought that we solved the mystery of the Universe!

Int.I: (Laughing)

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NRG: And on that bombshell Isaac I shall cease this interview and thank you very, very kindly and we can both return politely to our cells...Oh! Look! It's not been recording (Laughing)

Int.I: Really?

NRG: No...(Laughing)

Int.I: (Laughing)

NRG: Stopping ridiculously, at ten minutes to five on the same day! What a treat!

Appendix 2 – Colour Coded Synchronised Analysis Transcript

Colour	Analysis Sweeps	Meaning
Yellow	1 st	Free analysis (interviewee)
Pink	1 st	Free analysis (interviewer)
Orange	2 nd	Critical analysis
Blue Biro	3 rd	Double Hermeneutic
Black Biro	4 th /5 th /6 th	Extended Critical Analysis

Coding Colour Key

methodology or does he mean methods?

Int.B: You see that's the thing of You Tube and technology it offers positives and it offers negatives then it's the people...and how they use it...and so far the medium of You Tube to me has been trying to replicate something or upload something but nobody has ever thought of how to use You Tube to model teaching and learning for example...So the guy who is uploading himself and putting up a video is not really doing anything new...Yes you can call it technology...but it is nothing new...they haven't invented a new methodology...and I think by now people could have come up with something potentially really, really new and really interesting the fact is we are not really concentrating on that...Everybody is missing the point...when we use technology we are actually using it replicate something we used to do before...only in a different format...

we have never been modern Virtual mirroring Reality?

NRG: It's just in the past...

Int.B: Yeah...but now we do it in front of a camera and we upload it on the internet...What am I actually watching...I am watching a guy showing me how to play the guitar...exactly like I did 25 years ago...So I don't see any revolution there...Maybe the only difference is that you can stop and you can pause...and the benefits of that are that you don't have to be in the same room with somebody else...there are things it can bring...like it can break distances...actually you can bring it down to all sorts of levels of society (egalitarian emancipation)... But as you know music is not that simple either because if you want to teach a student that's never played the guitar before it could be an experiment to show videos to the child for the next five years to see what progress he would make just using You Tube...

NRG: Apparently...And... this is breaking news... A student has just been admitted onto an undergraduate course at the London College of Music in Greenwich (2016 start) who only used You Tube tutorials to learn his instrument, I don't know which instrument they specialize in...

Int.B: Yeah...It is video but You Tube is also sound and it is kind of like going back to the tape and learning by ear...so it's pretty much the same thing...Like how many people learned by ear? Er...I think the majority of Pop musicians in the world...Some of the most famous bands actually made music without actually knowing what structure is

NRG:.. Or they couldn't read a note

Int.B:...and yet they come up with the best riffs...

NRG: Led Zeppelin...O.K. Here's one... Say you're in a Key Stage 3 lesson and you have You Tube up and it's ready to go...do you think it is important to follow your instincts and keep things spontaneous or...obviously you have got to be careful or sometimes you find that misleading or compromising especially if it is not a clean video which can be a problem... But following that meme thing... You know when you start off your doing a particular Rolling Stones track 1964... paint it black...with the little riff on the E but then you see

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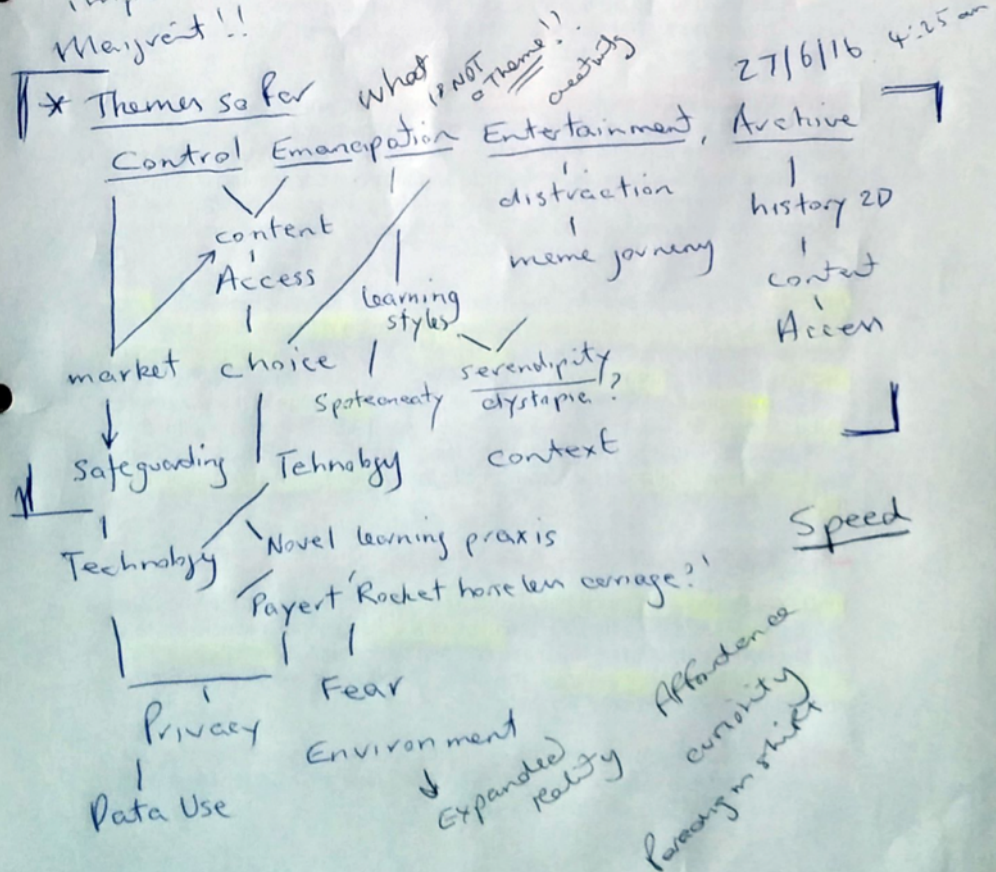
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etc.

* This is interesting - literally says the interface between
 The - neg and + pos affordances of YouTube and how
 humans leverage the possibilities
 - Nothing new?? Access and Speed ^{choice} are new and are
 improving/increasing continually * ^{Not content}
 but as Samer / McLuhan say the 'conduit' is more
 important than what is in it "C'est le pipe" top misquote
 Mayrät!!



something similar to it in the right hand column (of the visual pane) do you ever ...in flight...change your plan?

Int.B: Yes, yes...definitely

NRG: You say that looks good and if it is ...you will roll with it? Because that seems to me one of the affordances you can follow...that there is this line that you can follow...and it's up to you where you go...You can be led by the right hand column...Which reminds me have read and understood in their entirety the terms and conditions of You Tube?

Int.B: No.

NRG: And have you changed all your privacy settings so you do not get predicted content in the right hand column?

Int.B: No!

NRG: Just another quick...Jobs worth question...Have you read through Google's terms and conditions?

Int.B: No.

NRG: Have you read through Apple's terms and conditions?

Int.B: No.

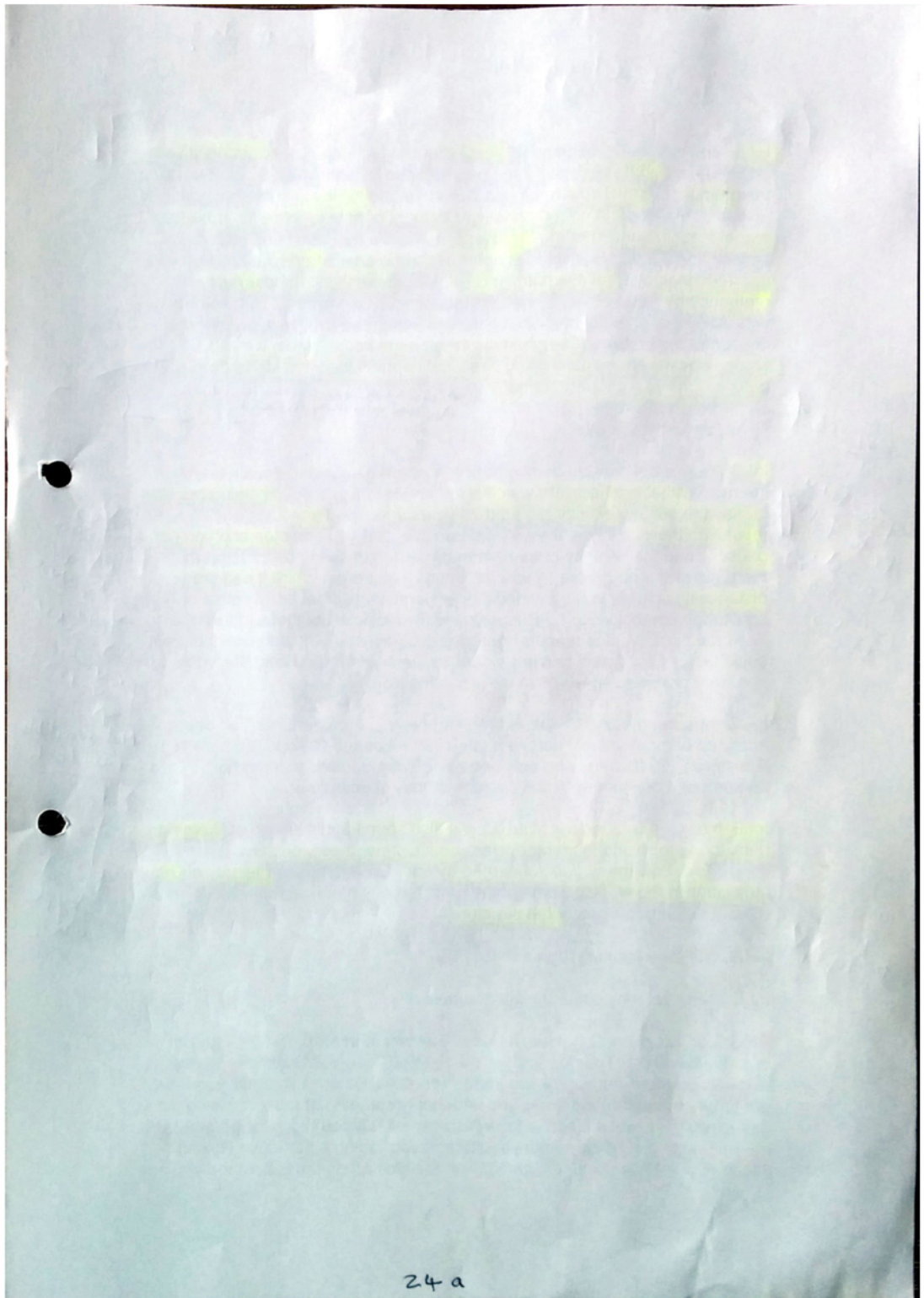
NRG: A lot of people are in that boat...That's very interesting. So would you structure your usage of You Tube?...Researchers (T.P.A.C.K) in mathematics carefully selected You Tube clips in order for the students to discover revelations and the students are supposed to make the connections as opposed to the teacher making all of the connections...it was very well planned out... But the obvious problem was that the students couldn't see where it was going. Do you ever use You Tube where you throw something out to the class and then say where do you want to go next (on You Tube)?

Int.B: I personally have never done it! I have never asked the class to chose from the right hand column...It's too scary!

NRG: we have 22 i-pads and they (students) can go off looking for the song they want to learn...with a musical futures style...and obviously there is a lot of stuff they come across..

Int.B: I do ask them or I have done it in the past where I give them access to i-pads or access to computers...actually the school where I am now they bring their own phones and they can use the Wi-Fi So basically I say, and I have done it just this term with the year 9's, I just ask them chose a song...that you want to learn...kind of like musical futures...And they do...they choose their songs...But as you know the role of teacher becomes that of modeling the songs and you have to call it with regards to difficulty because some students

in/Future - limitations
24



chance
humintic
→

Spontaneity - connectivity

would like to learn, I don know... Vivaldi No. 3 or something like that... Like O.K. it is not going to happen and there is no way you could model it down... because you would have to change the whole song... So that is sometimes the problem I have when allowing so much freedom... But you do get them interested and they can begin to research and they can even get interested in classical music... almost by following the right thing by mistake!

NRG: Yes...

Curiosity

Int.B: And I think at the end of the day anything that spurs interest and curiosity I think is a positive thing in education... So if you get this kid who can't really play and they get hooked by this riff from Vivaldi's No 3 or whatever... And you know there is no chance that this kid is going to learn that piece by ear... But it still could be his epiphany... and he goes Whoa! I really like this violin thing and you say great we can talk about this piece of music later... and may be try to sort out some violin lessons and maybe try to play some violin... It can be done in that way so I think if it is good enough to spur interest and curiosity then it's worth it.

NRG: And presumably the curiosity is that little bit before they become creative... Like mash this video over that one or use the same chords and I can put the two songs together... So is it that autonomy to be curious that is the key to Key Stage 3? Where you allow them to be curious as opposed to teaching them everything?

teachy
curiosity
balance

Int.B: I think it's important an important element... but it is always the difficulty of the blend of how much curiosity and how much (Control) teaching them how to progress technically on an instrument and that's the challenge...

Context dependent

NRG: Can you teach people how to be curious..?

System
Framing
contracting
issue

Int.B: You could try to... I think everyone is curious... it is a natural instinct... as a teacher you cannot plan a lesson and say that I am going to make my students curious... say after one year! You can implement parts of your teaching that can encourage students to be curious. For students to be curious and creative, that is the other side, the teachers at the school need to be prepared to allow that... which is a big step and people need to take it together → context

NRG: Because when you're creating something you might have to destroy something that is already there...

Inspiration
Kuhnian Shift

Int.B: The challenge is that creativity cannot be forced not just in a classroom but in life ... you cannot go home and say... Right let's go and make a painting... Creativity is something that needs to be spurred, it can be helped, it cannot be forced. And I think you need time and allow people to do things in their own way and at their own pace and allow them to make loads of mistakes as well

NRG: and make lots of connections...

↑ the joke needs to be told then it need be explained. Much funnier if individual makes connection Koertle.

— heuristic praxis

— ^{Theme}
Curiosity

— Andragogy
Self directed learning ✓ heteronomy
↳ the degree of Autonomy

→ Relax control to foster curiosity/creativity -?
/ increase control increases curiosity/creativity
Different drivers same outcome?
Curiosity/Creativity are like affordances both +/-
for the organism or environment.
Creation = Destruction (intentional)
Curiosity = Destruction (non-intentional)? hunch?
isight in both -/+ context dependent

25a

creativity

Int.B: ... The biggest problem in education, regardless of how schools say we should promote creativity, is that (the school) always expects a product at the end of those 3 months... The beautiful thing about creativity is that it either can or can't happen in that time, but the important thing is to practice that process... But if we are going to expect a product that is going to be valued and then assessed then it defies the purpose of being creative in the first place... The creative process is intrinsic and you can see it in the students who like to go back to the studio because they've got this creative thing going on...

NRG: When they get distracted from something you have given them to do... If you've given them this chord and this chord and this chord and some children think just a minute I can see or hear another chord here and depending on the teacher, that can go down very well... But when it's very didactic (the student) is then out of line with the control system they are in... And You Tube and the Internet are so hard to bring in to the formal educative setting because they are so far out of the school steerage systems... Because schools have got an axe to grind so to speak... they've got certificates to get, they've got statistics to meet, they've got percentages to reach... And the journey you might take as a curious student... Well it can't be... really... proved. In which case if you can't prove it and you can't assess it...

*creativity
assessment
issue*

Int.B: And I suppose you want to spur on creativity you really want kids to explore more in their own time, away from school, because that's really the key. And there you see is another problem because the controlled assessment does not allow that

NRG: No, you're right.

Int.B: Not if you really want to apply the rules... I think that's where everybody would agree if you said we want more creativity in the classroom... They would all say yes of course. But it is difficult to market and difficult to contextualize it... Creativity is basically creating but when you start to put it on pedestals then ... you know... Creativity becomes something else... It can become competitiveness... it can become narcissism

*important
contextual
point.*

NRG: As we were discussing the other evening it is difficult for a musician to learn something new that may be difficult, challenging or even beautiful in the wrong environment... And the wrong environment can often be a very noisy classroom with other people doing different musical things at the same time and I think a professional musician would find that environment difficult let alone a student who is just beginning their musical journey... And I think one of the affordances of You Tube is that they can be socially and psychologically safe whilst they make mistakes and learn it and then they can bring it when they think they've got it and then they can bring it out into the public...

Int.B: Yes. That's a very, very valid point... yes.

resilien E. Osborn speech am.
27/6/16

Assessment → Product over process ^{Aims}
Competency (Berntsen)

Is it all about Control - Education used as
control / selfcontrol
mechanism?

Controlled Assessment disallows freedom to be
creative - Syllabus restrictions etc forced for standardised
assessment methods

→ Creativity as Competition / Narcissism.

→ School environment unsuited to certain learning
styles and certain students. Context is of
Vital importance

26a

Appendix 3 – YouTube Sequential Media

You Tube Homepage

The screenshot displays the YouTube homepage interface. At the top, there's a navigation bar with the YouTube logo, a search bar, and links for 'Sign in', 'Upload', and 'Show ads'. Below the navigation bar, the main content area is divided into several sections. The 'Trending' section features a grid of video thumbnails with titles like 'Bruce Springsteen sings a different tune in new book', 'Fifth Harmony - Thata My Girl', 'MY BIG MOMENT!', '10 Shocking Things You Didn't Know About Donald Trump!', 'MY 23rd BIRTHDAY!', and 'GUESS WHAT!'. The 'Recommended' section shows a grid of video thumbnails with titles like 'Seven Nation Army - The White Stripes (cover) Jess Greenberg', 'Sweet Child O' Mine - Guns N' Roses (cover) Jess Greenberg', 'Under the bridge - Red Hot Chili Peppers (cover) Jess Greenberg', 'Get Lucky - Daft Punk ft. Pharrell Williams & Nile Rodgers (Cover...)', 'Enter Sandman - Metallica (cover) Jess Greenberg', 'Jumpin' Jack Flash - Rolling Stones (cover) Jess Greenberg', 'Top Gear 21 HD - S21 E01 - Season 21 Episode 1', 'Camperman Challenge - Top Gear', 'Epic Fail: Hammond can't handle Business Honapower - Top Ge...', 'Star Is A Reasonably Priced Car: Roman Abramovich - Top Ge...', 'The Worst Car in the History Of The World - Top Gear - BBC', and 'Top Gear - 100 Pound Car Challenge'. The bottom of the page features a 'Browse channels' section with links to 'Home', 'Trending', 'History', 'Music', 'Sports', 'Gaming', 'Movies', 'TV Shows', 'News', 'Live', 'Spotlight', and '360° Video'. A 'Sign in' button is also present.

Selected Media

The screenshot displays a YouTube video player interface. The video title is "How to Play Stairway to Heaven on Guitar - Led Zeppelin Lessons - Acoustic Jimmy Page". The video has 4,365,634 views and was uploaded on Jan 25, 2010. The video player shows a close-up of hands playing an acoustic guitar. The Yousician logo is visible in the top left corner of the video frame. Below the video player, there is a description of the video and a list of related videos. The browser address bar shows the URL: https://www.youtube.com/watch?v=dzkVol_JOHqs. The browser tabs show "How to Play Stairway to Heaven - X".

Yousician - Learn Guitar, Piano and Ukulele
by Yousician

Download Yousician
yousician.com

Ad 0:27 0:02 / 0:30

You can skip to video in 3

How to Play Stairway to Heaven on Guitar - Led Zeppelin Guitar Lessons - Acoustic Jimmy Page

GuitarJamz 1,690,145

Subscribe

4,365,634 views

17,801 788

Uploaded on Jan 25, 2010
Free Ebook when you sign my "friend list" http://www.guitarjamz.com/new_requests/

Yousician 44K

Subscribe

A TOP TO HAVE KIDS LEARN SOMETHING AMAZING

Visit Advertiser's Site

Up next

Acoustic blues scale - fun, easy beginner guitar
yousician.com/guitar
3,159,855 views

Mix - How to Play Stairway to Heaven on Guitar - Led Zeppelin
YouTube

50+ Videos

LED ZEPPELIN STAIRWAY TO HEAVEN
1447

How To Play Stairway To Heaven Part 1 - Guitar Lesson - Led Zeppelin
Marty Music
42,069 views

Tutorial: Stairway to Heaven - w/ TAB (How to play the entire song)
LockNroll - Free Guitar Education
393,746 views

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You Tube

How to Play Stairway to Heaven - x
<https://www.youtube.com/watch?v=dzXVoLJOHqs>

how to play stairway to heaven on guitar

YouTube

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21:09

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875,917 Views

Pink Floyd - Wish You Were Here - Easy Acoustic Guitar Lesson

GuitarJamz

3,389,311 Views

Marty Schwartz teaches you a Trick To Make People Think You

GuitarJamz

46,223 Views

Jimmy Page: How Stairway to Heaven was written - BBC News

BBC News

3,354,795 Views

How to Play Sweet Home Alabama on Guitar

GuitarJamz

5,960,593 Views

How to make simple guitar

LEO ZEPPELIN STAIRWAY TO HEAVEN

11:40

7:31

7:45

9:27

10:51

5:16

7:58

how to play stairway to heaven on guitar

COMMENTS • 2,540

Add a public comment...

Emir Ayrat 3 days ago

It took me an hour to master this part!hey thanks :)

Reply • 1

King Ervin 2 weeks ago

hello ^^ i wonder if im an adult now....you still teach us guitar ^^

Reply • 1

XTwentyX 3 weeks ago

why dont you just fucking play it in slow mo, too much talking omfg, we can see it, we can hear it, enough

Reply • 2

local survivor 5 days ago

you can have that kind of lesson by yourself then

Reply • 1

Da Vin Kim 3 weeks ago

Thank you for great video! But I need help holding my index finger as a bar. My muscle attached to thumb hurt so much when I am trying to hold 4 strings with my index. Is this pain necessary or is there any tips to avoid that pain? Thank you.

Reply • 1

Nicholas Valdez 1 month ago

Oh wow this was easier than I thought

Reply • 1

Wyatt Stevens 1 month ago

GuitarJamz do you know any bass teaching you tube accounts

Reply • 1



Ethics Application Form: Student Research

All research activity conducted under the auspices of the Institute by staff, students or visitors, where the research involves human participants or the use of data collected from human participants are required to gain ethical approval before starting. *This includes preliminary and pilot studies.* Please answer all relevant questions responses in terms that can be understood by a lay person and note your form may be returned if incomplete.

For further support and guidance please see accompanying guidelines and the Ethics Review Procedures for Student Research <http://www.ioe.ac.uk/studentethics/> or contact your supervisor or researchethics@ioe.ac.uk.

Before completing this form you will need to discuss your proposal fully with your supervisor(s). Please attach all supporting documents and letters.

For all Psychology students, this form should be completed with reference to the British Psychological Society (BPS) Code of Human Research Ethics and Code of Ethics and Conduct.

Section 1 Project details

a.	Project title		The You Tube® effect: A paradigm shift in how musicians learn, teach and share?		
b.	Student name and ID number (e.g. ABC12345678)		Neil Robert Garner GAR07054508		
c.	Supervisor/Personal Tutor		Evangelos Himonides		
d.	Department		Culture, Communication & Media		
e.	Course category (Tick one)	PhD/MPhil	<input type="checkbox"/>	EdD	<input checked="" type="checkbox"/>
MRes		<input type="checkbox"/>	DEdPsy	<input type="checkbox"/>	
MTeach		<input type="checkbox"/>	MA/MSc	<input type="checkbox"/>	
ITE		<input type="checkbox"/>			
Diploma (state which)		<input type="checkbox"/>			
Other (state which)		<input type="checkbox"/>			
f.	Course/module title		Ed.D Thesis		
g.	If applicable, state who the funder is and if funding has been confirmed.		N/A		
h.	Intended research start date		01.07.2015		
i.	Intended research end date		01.06.2016		
j.	Country fieldwork will be conducted in <i>If research to be conducted abroad please check www.fco.gov.uk and submit a completed travel insurance form to Serena Ezra</i>		United Kingdom		

s.ezra@ucl.ac.uk in UCL Finance (see guidelines). This form can be found here (you will need your UCL login details available): https://www.ucl.ac.uk/finance/secure/fin_acc/insurance.htm	
k.	Has this project been considered by another (external) Research Ethics Committee?
Yes <input type="checkbox"/>	External Committee Name:
No <input checked="" type="checkbox"/> ⇒ go to Section 2	Date of Approval:
If yes: <ul style="list-style-type: none"> – Submit a copy of the approval letter with this application. – Proceed to Section 10 Attachments. 	
Note: Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the National Research Ethics Service (NRES) or Social Care Research Ethics Committee (SCREC) . In addition, if your research is based in another institution then you may be required to apply to their research ethics committee.	

Section 2 Project summary

Research methods (tick all that apply)

Please attach questionnaires, visual methods and schedules for interviews (even in draft form).

- | | |
|---|---|
| <input checked="" type="checkbox"/> Interviews | <input type="checkbox"/> Controlled trial/other intervention study |
| <input type="checkbox"/> Focus groups | <input type="checkbox"/> Use of personal records |
| <input type="checkbox"/> Questionnaires | <input type="checkbox"/> Systematic review ⇒ <i>if only method used go to Section 5.</i> |
| <input type="checkbox"/> Action research | <input type="checkbox"/> Secondary data analysis ⇒ <i>if secondary analysis used go to Section 6.</i> |
| <input checked="" type="checkbox"/> Observation | <input type="checkbox"/> Advisory/consultation/collaborative groups |
| <input checked="" type="checkbox"/> Literature review | <input type="checkbox"/> Other, give details: |

Please provide an overview of your research. This should include some or all of the following: purpose of the research, aims, main research questions, research design, participants, sampling, your method of data collection (e.g., observations, interviews, questionnaires, etc.) and kind of questions that will be asked, reporting and dissemination (typically 300-500 words).

This research proposal is a flexible design to explore a lacuna in knowledge with regards to the current learning processes and underpinning values of interactions with digital technologies on musicians and their practices. This research aims to expose novel digitally enabled musical learning techniques and practices as experienced by a small purposive sample of six professional musicians / educators between the digital expansion of 2005 to 2014.

This research explores the question:

What are the learning processes and underpinning values of digital technologies in relation to musicians and their practices?

The focus of this research proposal is to reveal and document the changes in the available methods of music learning brought about since 2005, by the capabilities afforded by Internet based video sharing websites, principally You Tube ®. I will explore the phenomenological transitions and political trajectories associated with the digitization of the secondary school classroom and its implications. e.g. the implications for musicianship and the possibilities for emancipatory pedagogic practice within a performance based and

increasingly neo-liberally steered 11-16 years schooling system of the United Kingdom.

The decision to focus on investigating the learning processes and values, suggests a qualitative study that sits within an interpretivist paradigm. Interpretivism focuses on interpreting happenings within a particular social context. In this case the context is the inter-relationship between the individual subject and Internet based digital technologies and their own musical learning, teaching and sharing. The research participants represent a purposive sample of colleagues and ex-colleagues who are musicians and currently music educators.

The primary method of data collection for this study will be biographical unstructured interviews, sometimes referred to as life history research. The life history method is a particular form of case study where the 'case' studied is an individual person. The format to be used is the 'interpretive' biography where the intention is to interpret a person's life and actions through the telling of their story. In addition for interpretivist research to be considered successful, the researcher should understand and appreciate the experience of the participants. This researcher could be considered the seventh ethnographically bound participant or quasi-researcher. I am fully cognizant with, and somewhat immersed in, their journey and experience which indeed, parallels my own.

This research will generate vast amounts of data all of which will need accurately transcribing and then analyzing using a narrative analysis and conversational analysis under the umbrella of Hermeneutics. The results should yield information that could provide, or further inform, a theoretical framework enabling a more effective and creative use of technology and digital media for musical learning and for informing professional practice.

Section 3 Participants

Please answer the following questions giving full details where necessary. Text boxes will expand for your responses.

a.	Will your research involve human participants?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> ⇒ go to Section 4
b.	Who are the participants (i.e. what sorts of people will be involved)? Tick all that apply. Musicians/Music educators from the secondary education sector		
	<input type="checkbox"/> Early years/pre-school <input type="checkbox"/> Ages 5-11 <input type="checkbox"/> Ages 12-16 <input type="checkbox"/> Young people aged 17-18	<input type="checkbox"/> Unknown – specify below <input checked="" type="checkbox"/> Adults <i>please specify below</i> <input type="checkbox"/> Other – specify below	
	NB: Ensure that you check the guidelines (Section 1) carefully as research with some participants will require ethical approval from a different ethics committee such as the National Research Ethics Service (NRES). N/A		
c.	If participants are under the responsibility of others (such as parents, teachers or medical staff) how do you intend to obtain permission to approach the participants to take part in the study? (Please attach approach letters or details of permission procedures – see Section 9 Attachments.) N/A		
d.	How will participants be recruited (identified and approached)? Informally by email and or in person		
e.	Describe the process you will use to inform participants about what you are doing. I will email an abridged introduction to my study along with the proposed title and discuss in person as my sample is a small and purposive and all respondents are well known to me as ex-colleagues or current.		
f.	How will you obtain the consent of participants? Will this be written? How will it be made clear to participants that they may withdraw consent to participate at any time? <i>See the guidelines for information on opt-in and opt-out procedures. Please note that the method of consent should be appropriate to the research and fully explained.</i> Standard UCL IoE consent forms to be used making explicit the participants right to withdraw from the study at any point prior to final draft submission and the right to proof their contributions redacting any said contributions if they so wish. All participants able to contextualise their input by reading the final draft of the Doctoral thesis prior to submission for examination thereby giving the participant final editorial control over their contribution if they so wish.		
g.	Studies involving questionnaires: Will participants be given the option of omitting questions they do not wish to answer? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
	If NO please explain why below and ensure that you cover any ethical issues arising from this in section 8.		

h.	Studies involving observation: Confirm whether participants will be asked for their informed consent to be observed. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	If NO read the guidelines (Ethical Issues section) and explain why below and ensure that you cover any ethical issues arising from this in section 8.
i.	Might participants experience anxiety, discomfort or embarrassment as a result of your study? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	If yes what steps will you take to explain and minimise this? If not , explain how you can be sure that no discomfort or embarrassment will arise?
j.	Will your project involve deliberately misleading participants (deception) in any way? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	If YES please provide further details below and ensure that you cover any ethical issues arising from this in section 8.
k.	Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	If NO please explain why below and ensure that you cover any ethical issues arising from this in section 8.
l.	Will participants be given information about the findings of your study? (This could be a brief summary of your findings in general; it is not the same as an individual debriefing.) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	If no , why not?

Section 4 Security-sensitive material

Only complete if applicable

Security sensitive research includes: commissioned by the military; commissioned under an EU security call; involves the acquisition of security clearances; concerns terrorist or extreme groups.

a.	Will your project consider or encounter security-sensitive material?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>
b.	Will you be visiting websites associated with extreme or terrorist organisations?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>
c.	Will you be storing or transmitting any materials that could be interpreted as promoting or endorsing terrorist acts?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>

* Give further details in **Section 8 Ethical Issues**

Section 5 Systematic review of research

Only complete if applicable

a.	Will you be collecting any new data from participants?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>
b.	Will you be analysing any secondary data?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>

*** Give further details in Section 8 Ethical Issues**

*If your methods do not involve engagement with participants (e.g. systematic review, literature review) and if you have answered **No** to both questions, please go to **Section 10 Attachments**.*

Section 6 Secondary data analysis Complete for all secondary analysis

a.	Name of dataset/s		
b.	Owner of dataset/s		
c.	Are the data in the public domain?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
		If no, do you have the owner's permission/license? Yes <input type="checkbox"/> No* <input type="checkbox"/>	
d.	Are the data anonymised?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
		<i>Do you plan to anonymise the data?</i> Yes <input type="checkbox"/> No* <input type="checkbox"/> <i>Do you plan to use individual level data?</i> Yes* <input type="checkbox"/> No <input type="checkbox"/> <i>Will you be linking data to individuals?</i> Yes* <input type="checkbox"/> No <input type="checkbox"/>	
e.	Are the data sensitive (DPA 1998 definition)?	Yes* <input type="checkbox"/>	No <input type="checkbox"/>
f.	Will you be conducting analysis within the remit it was originally collected for?	Yes <input type="checkbox"/>	No* <input type="checkbox"/>
g.	If no , was consent gained from participants for subsequent/future analysis?	Yes <input type="checkbox"/>	No* <input type="checkbox"/>
h.	If no , was data collected prior to ethics approval process?	Yes <input type="checkbox"/>	No* <input type="checkbox"/>

*** Give further details in Section 8 Ethical Issues**

*If secondary analysis is only method used and no answers with asterisks are ticked, go to **Section 9 Attachments**.*

Section 7 Data Storage and Security

Please ensure that you include all hard and electronic data when completing this section.

a.	Confirm that all personal data will be stored and processed in compliance with the Data Protection Act 1998 (DPA 1998). (See the Guidelines and the Institute's Data Protection & Records Management Policy for more detail.)	Yes <input checked="" type="checkbox"/>
b.	Will personal data be processed or be sent outside the European Economic Area?	Yes <input type="checkbox"/> * No <input checked="" type="checkbox"/>

*** If yes**, please confirm that there are adequate levels of protections in compliance with the DPA 1998 and state what these arrangements are below.

c.	Who will have access to the data and personal information, including advisory/consultation groups and during transcription? Professional academic transcribers
During the research	
d.	Where will the data be stored? UCL IoE student Drive + backed up by encrypted portable hard drive
	Will mobile devices such as USB storage and laptops be used? Yes <input checked="" type="checkbox"/> * No <input type="checkbox"/>
e.	* If yes, state what mobile devices: lap top * If yes, will they be encrypted?: yes
After the research	
f.	Where will the data be stored? Encrypted hard drive
g.	How long will the data and records be kept for and in what format? Word, pdf, audio files until Ed.D status secured through viva and amendment completion etc.
h.	Will data be archived for use by other researchers? Yes <input type="checkbox"/> * No <input checked="" type="checkbox"/> * If yes, please provide details.

Section 8 Ethical issues

Are there particular features of the proposed work which may raise ethical concerns or add to the complexity of ethical decision making? If so, please outline how you will deal with these.

It is important that you demonstrate your awareness of potential risks or harm that may arise as a result of your research. You should then demonstrate that you have considered ways to minimise the likelihood and impact of each potential harm that you have identified. Please be as specific as possible in describing the ethical issues you will have to address. Please consider / address ALL issues that may apply.

Ethical concerns may include, but not be limited to, the following areas:

- | | |
|---|--|
| <ul style="list-style-type: none"> - Methods - Sampling - Recruitment - Gatekeepers - Informed consent - Potentially vulnerable participants - Safeguarding/child protection - Sensitive topics | <ul style="list-style-type: none"> - International research - Risks to participants and/or researchers - Confidentiality/Anonymity - Disclosures/limits to confidentiality - Data storage and security both during and after the research (including transfer, sharing, encryption, protection) - Reporting - Dissemination and use of findings |
|---|--|

This proposed research will be conducted through in depth musicianship focused interviews and is set to capture, record and analyse the effect of digitally enabled technologies on the participants personal musicianship and their music education practice.

As all the interviewees will be adults and will have signed an informed consent form I do not assume this research will raise any ethical issues or increase the potential risk of harm to befall any of the participants. In the future should I require further consent to publish I will seek further consents as required. The British Education Research Association revised guidelines (2011) will be used to frame this study. All participants will be advised that they can withdraw their consent at any point prior to the submission of the thesis for assessment. All participants will be given the opportunity to read the thesis and their contributions prior to submission. All names and places will be redacted and anonymised to protect the contributors from

identification and to ensure the utmost confidentiality. All contributed data will be stored safely on the encrypted UCL IoE computer system and backed up on an encrypted portable hard drive at a secure location.

Section 9 Further information

Outline any other information you feel relevant to this submission, using a separate sheet or attachments if necessary.

N/A

Section 10 Attachments Please attach the following items to this form, or explain if not attached

a.	Information sheets and other materials to be used to inform potential participants about the research, including approach letters: Participants to be contacted in person as the 6 participants are either colleagues, ex-colleagues and also personal friends	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
b.	Consent form	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>If applicable:</i>		
c.	The proposal for the project	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
d.	Approval letter from external Research Ethics Committee	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

e.	Full risk assessment	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Section 11 Declaration

	Yes	No
I have read, understood and will abide by the following set of guidelines.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BPS <input type="checkbox"/> BERA <input checked="" type="checkbox"/> BSA <input type="checkbox"/> Other (please state) <input type="checkbox"/>		
I have discussed the ethical issues relating to my research with my supervisor.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I have attended the appropriate ethics training provided by my course.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>I confirm that to the best of my knowledge:</p> <p>The above information is correct and that this is a full description of the ethics issues that may arise in the course of this project.</p>		
Name	Neil Robert Garner	
Date	10.05.2015	

Please submit your completed ethics forms to your supervisor.

Notes and references

Professional code of ethics

You should read and understand relevant ethics guidelines, for example:

[British Psychological Society](#) (2009) *Code of Ethics and Conduct*, and (2014) *Code of Human Research Ethics*
or

[British Educational Research Association](#) (2011) *Ethical Guidelines*
or

[British Sociological Association](#) (2002) *Statement of Ethical Practice*

Please see the respective websites for these or later versions; direct links to the latest versions are available on the Institute of Education <http://www.ioe.ac.uk/ethics/>.

Disclosure and Barring Service checks

If you are planning to carry out research in regulated Education environments such as Schools, or if your research will bring you into contact with children and young people (under the age of 18), you will need to have a Disclosure and Barring Service (DBS) CHECK, before you start. The DBS was previously known as the Criminal Records Bureau (CRB)). If you do not already hold a current DBS check, and have not registered with the DBS update service, you will need to obtain one through at IOE. Further information can be found at http://www.ioe.ac.uk/studentInformation/documents/DBS_Guidance_1415.pdf

Ensure that you apply for the DBS check in plenty of time as will take around 4 weeks, though can take longer depending on the circumstances.

Further references

The www.ethicsguidebook.ac.uk website is very useful for assisting you to think through the ethical issues arising from your project.

Robson, Colin (2011). *Real world research: a resource for social scientists and practitioner researchers* (3rd edition). Oxford: Blackwell.

This text has a helpful section on ethical considerations.

Alderson, P. and Morrow, V. (2011) *The Ethics of Research with Children and Young People: A Practical Handbook*. London: Sage.

This text has useful suggestions if you are conducting research with children and young people.

Wiles, R. (2013) *What are Qualitative Research Ethics?* Bloomsbury.

A useful and short text covering areas including informed consent, approaches to research ethics including examples of ethical dilemmas.

Departmental use

If a project raises particularly challenging ethics issues, or a more detailed review would be appropriate, you may refer the application to the Research Ethics and Governance Administrator (via researchethics@ioe.ac.uk) so that it can be submitted to the Research Ethics Committee for consideration. A Research Ethics Committee Chair, ethics representatives in your department and the research ethics coordinator can advise you, either to support your review process, or help decide whether an application should be referred to the Research Ethics Committee.

Also see 'when to pass a student ethics review up to the Research Ethics Committee':
<http://www.ioe.ac.uk/about/policiesProcedures/42253.html>

Reviewer 1

Supervisor name	[REDACTED]
Supervisor comments	This is a straight-forward case of mainstream qualitative research. The main data collection tool will be interviews, and all appropriate measures will be taken in order to ensure that confidentiality and anonymity are enforced. Participants will be consenting adults and will become fully aware of the research design, data analyses methods, deliverables and future
Supervisor signature	[REDACTED]

Reviewer 2

Advisory committee/course team member name	
Advisory committee/course team member comments	
Advisory committee/course team member signature	

Decision

Date decision was made	
Decision	Approved <input type="checkbox"/>
	Referred back to applicant and supervisor <input type="checkbox"/>
	Referred to REC for review <input type="checkbox"/>

Recording	Recorded in the student information system <input type="checkbox"/>
------------------	---

Once completed and approved, please send this form and associated documents to the relevant programme administrator to record on the student information system and to securely store.

Further guidance on ethical issues can be found on the IOE website at <http://www.ioe.ac.uk/ethics/> and www.ethicsguidebook.ac.uk



Consent form

The You Tube[®] effect: A paradigm shift in how musicians learn, teach and share?

I have spoken with the lead researcher about the research ☐ (please tick)

I will allow the researchers to interview me ☐ (please tick)

I agree to be observed if required ☐ (please tick)

I understand that I have the right to withdraw from ☐ (please tick)

the study at any point prior to final assessment submission

I understand that my identity will be anonymised ☐ (please tick)

I understand that I can redact any interview contribution ☐ (please tick) in part
or in full prior to final submission for assessment

I understand that if I desire I may read the completed ☐ (please tick)
Thesis in full prior to final submission

Name

Signed

date

Researcher's name

Signed

date

Appendix 6 – Interview Questions

Semi structured interview questions

(Informed by, and abridged from, Csíkszentmihályi (1996, Appendix B)

Musical beginnings

Warm up question: (How did music first attract your attention? How has music held your attention?)

1.) Of the things you have accomplished in Music and Music Education which was the most unexpected or surprising?

- a. To what do you attribute your success e.g. personal abilities, qualities, environment, technology?

2.) Of all the obstacles you have encountered as an educational professional and a musician which has been the hardest to overcome?

a. Why was it the hardest? And how did you overcome it?

b. Any that you did not (yet) overcome?

3.) What words of wisdom would you offer a beginning Music teacher regarding the use of technologies such as You Tube within a classroom environment?

a. Has your perspective changed markedly since you qualified?

4.) Do you consider yourself intrinsically or extrinsically motivated?

a. To what extent do you keep your professional and personal personas separate?

b.) Do you use You Tube to highlight and / or solve musical problems e.g. Theoretical, Practical?

c.) What's the split between the audio and the visual? How is the visual important for a musician?

d.) Do you read the comments?

e.) History, metrics and memory. Are your settings on or off? Ad block on?

5.) How best would you explain the possibilities provided by new technologies within music education to a new entrant to the profession?

a.) Is this your current position or has it changed since you began?

b.) Was there a specific time, year or web based media that fundamentally changed your practice?

c.) How would you quantify the value of You Tube as a music education platform?

6.) How did you initially become involved with utilising new media technologies e.g. You Tube? Can you remember the very first time you used You Tube?

a. Curiosity?

b. Necessity?

c.) When Did you start using for your own personal musicianship, professional practice or both?

d.) Was broadband speed and control in an educational or personal environment an issue?

Working Habits / insights

7.) What is the balance between your rationality versus intuition when using new media e.g. You Tube.

a. Do you have two different styles in your professional work, one more rational and one more intuitive?

b. When using You Tube do you feel it is important to follow your instincts and keep things spontaneous? Or do you find this approach misleading and sometimes compromising?

c. Do you work better with a pre-planned approach when using web-based applications such as You Tube?

d.) How do you find your mentor's mentors on You Tube?

e.) How much music time per cent do you spend on You Tube as opposed to other online media?

f.) Is the length of the You Tube clip important> Too long or Too short?

g. Do you upload? Why? Why not?

8.) Can you describe a typical way you would use You Tube within a live music education classroom?

a.) Can you recall an innovative/creative use of You Tube that was both surprising and effective?

b. Have you ever uploaded educational video's to You Tube?

9.) What do you consider to be You Tube's main strengths and weaknesses with regards to improving overall musicianship?

a. What are You Tube's particular strengths and weaknesses particularly within a Key Stage 3 music education setting?

10.) If you considered yourself to be a musician prior to 2005 (the advent of You Tube) how is your personal musicianship and professional music education practice different?

a.) How much do you value the advent of online musical facilitation, e.g. has You Tube altered your perception of the possibilities for your musicianship and you as a Music educator?

b. What do you think the future holds for musicians and music educators within an increasing networked world?

c.) Uploaded by people controlled by Google how does this facilitate autonomy?

11.) Do you believe you have experienced a paradigm shift or change in the way you practice musicianship and Music Education.

Final Thoughts

12.) Are there any observations, illuminations, curiosities or insights on the use of You Tube within your world as a musician or music educator within the field of Music Education or a specific domain of that field e.g. Instrumental, Composing appraising etc. that you would wish to share?

a.) Before You Tube how did you get the live audio-visual experience?

b.) How useful is the digital archive of musical and musicianship history?

c.) What would your life as a musician /educator be like if your access to You Tube was withdrawn?

Closed starter questions

Q.I Name

Q. II Instrument

Q. III Age began learning? (Current age?)

Q. IV Informal / by ear or formal notation etc.?

Q.V Profession pre 2005

Q. VI Profession post 2005 (How long have you been teaching Music?)

Q. VII Privacy settings adjusted? Ad block on?

Q. VIII Lurk or Upload?

Q. IX *Ad hoc* or plan, per cent?

Q. X Hits influence?

Q.XI Comments read and or add?

Q. XII Right-side thumbnail awareness /Distraction?

Appendix 7 – Isaac: Pilot interview analysis notes

(Appendix 01: 125)

Isaac is a 37-year old percussion teacher who delivers peripatetic percussion tuition and whole class extra-curricular ensemble music activities within the English state education sector predominantly teaching ages between 11- 16 years. Isaac started having formal drum kit lessons at the age of eleven.

Isaac immediately forwards an argument against social media via the wisdom of crowds. He sees it as is as more the tyranny, or stupidity of crowds in a social setting as opposed to collectively guessing the correct weight of an Ox! (Galton 1907)

Isaac's interview and analyses gave rise to consideration of the concept of Teacher as YouTube. YouTube represents the Master, in that the application can, in place of the Master, demonstrate the past musically and historically in *Obuchenie* a mediated learning process steered in part by the student apprentice and the algorithmic suggestions of the application.

The Master (YouTube) has the archive or the suggestions (predictive recommended video selection) and people, places and links to other technologies that may assist. The student searches the Master (YouTube) for data. If none, or not preferred information is returned, the student will change Master or supplement (Change YouTube channel or selections) searching through another Master (YouTube search) for other affordances to leverage. The difference between the Master, as human Teacher and 'YouTube' as Master is that the use of technology shifts the locus of context and content control from the teacher to the student. The possibility of student selected content and context poses a possible conflict between the ontology of an 'old style' traditional didactic peripatetic teacher, such as Isaac, and the emancipatory possibilities afforded by the user centric platform called YouTube. This, conflict over control of the learning environment, may account for the qualitative difference in the richness or not of usable data from this pilot interview.

Life history and introduction (Appendix 02: 126).

Isaac leads peripatetic lessons in single and small groups. Does not use a computer. Possible Technophobe. He has not read Google or YouTube Terms and conditions (Appendix 02: 127).

Uses Internet sparingly when he does it is for entertainment not musical or educative.

Ubiquity of Internet content e.g. paradiddle exemplar devoid of original context giving scope for re-contextualized use. Personal history in musical Communities of practice (Appendix 02: 128).

Peripatetic work. Bloom's 2 Sigma Problem. The search for methods of group instruction as effective as 1-2-1 tutoring. Peripatetic work unlike classroom teaching and so not comparable (Appendix 02: 129).

Social sensitivity increased due to intense Master Apprentice knowledge transmission mode e.g. Arthur and Merlin.

Int.I: I think at the beginner level when it comes to, you know, understanding how to hold a drumstick and how to see it as a kit and all that kind of stuff...Understanding people is 99 per cent of what it is about (Appendix 02: 129).

Personally and professionally committed to the Master apprentice model.

Flipped example-work done 'off the ball' away from formal learning.

Strong intrinsic drive. Drum set as technology. 2nd order technology (Floridi 2014)

Int I: Then it became about where I wanted to be better than him, and there was a point where my technique started to overtake his and that was a big driver and I thought Wow! I really must be onto something here...

Listening as Clark Terry imitate-assimilate-innovate (Appendix 02: 130)

Isaac is inspired by YouTube archival material as he can re-attend to it with better, ears, better hands and most importantly better knowledge.

Int.I: Yes. That's a very good point. Recently I remember teaching something that's called a Purdie shuffle, like a sort of triplet half time feel shuffle, and she could get the basic kind of structure to it and everything...but I was listening and I found all these

examples and one of them was John Bonham...playing a ~Purdie shuffle and he just brings his own thing to it. It's this unbelievably powerful, yet feels incredible groove, and I remember just listening to it, and thinking that's absolutely amazing and then spent an hour playing a shuffle because I wanted it to sound like that because it sounded so much better than I made it sound...

NRG: Yes that's the thing. I and thinking about YouTube clips and some of their usefulness is not as useful as it is for others. (Appendix 2:131)

Isaac's personal and professional persona's are not separable in the visceral world and definitely not separate in the digital world. Duty of care mentioned (control mechanisms).

Int I: ...I don't think I stop being a professional musician when I am teaching either, I think If anything, although it sounds a bit pretentious to say, I am a professional musician first and a teacher second... (Appendix 02: 132).

Classroom and peripatetic teachers all consider themselves musicians first and teachers second. Both share/offer mediated learning but in different formats.

This quote shows the importance of the visual in Key Stage 3. Quotable 'learning by ear is an acquired skill'

Int.I: For me, up to a point, it was absolutely vital that I could see. If you asked me to learn a groove just by listening to it aged 13 years I would have found it very, very hard. I think being able to see it was absolutely vital up to a point...because I think learning from, using my ears only is actually an acquired skill and it takes a bit of practice.

NRG: Embodied sound (Appendix 02: 132)

Non-creative formal use of YouTube as recording and playback device.

YouTube used as 'aide de memoir' replacing notation or assisting notation reading in the absence of the teacher. Sense of peripatetic format creating student dependency as opposed to fostering independency (Appendix 02: 134).

The YouTube Rabbit hole,

Int.I: I'm more like...anyone can tell you I am not into social media at all. Basically I am not into communication in a big way...but anyway. But I have been know to go into a YouTube hole where you disappear (Appendix 02: 134)

Isaac doesn't use YouTube but...he does!

Int I: To be honest, personally I use it as a kind of gateway because everything is on there, the whole world is on there, I can listening to any piece of music that exists via You Tube®. It is terrible quality, it is often corrupted so that it isn't taken down for copyright reasons...All these things... [YouTube] kind of gives an idea, and from that idea, I'll then go on and buy the vinyl or I shall buy the CD or I'll find it on Spotify, or in some way I'll get a better quality version that I can listen to. You Tube itself is like a kind of giant poster for everything in the world (Appendix 02: 135).

Isaac rarely reads comments as they quickly descend into arguments etc. Omnoptic -the many looking at the many (Appendix 02: 135).

Creativity and commerce,

Data versus Experience-Subverting YouTube to serve you not it.

Nothing new-does with YouTube as he has done with Vinyl and CD's same process just different environment-medium. Isaac argues that social media based creativity is less creative

Int.I: Well this is the thing social media is actually showing that what's going on is that people are going to the extremes...When people get together and converse they actually become more extreme rather than mediocre as they would be by themselves it is a huge global effect of the Men In Black quote 'A person is clever...and people are stupid' and through social media we are all being very, very stupid (Appendix 02: 137)

The 'sighted man's stick' technology now allows for a camera at the very tip of the Pontian stick. Hence YouTube as intelligent design by a sighted watchmaker as opposed to the blind?

NRG: Algorithm being selective reflection-non reciprocal (Biased) devolution and regressive as opposed to evolution and progressive (Appendix 02: 138). The Algorithm could be less self-referential and reflexive towards previously expressed preferences- it could be programmed to be more exploratory in its responses. I the final analysis it is steered by other humans

Laser beam oscillation as metaphor for focus and Creativity is a broader spectrum oscillation,

(Appendix 02: 139)

N/A

(Appendix 02: 140)

N/A

(Appendix 02: 141)

N/A

(Appendix 02: 142)

The Turing revolution or 4th (Floridi 2014),

(Appendix 02: 143)

Isaac does recommend student to use YouTube for technical exemplar and in doing so briefly abdicating his position of control.

Int.I: With regards to YouTube I would say to anyone that it [YouTube] is a tool. In the past you used to have to get a VHS player and play it to somebody now you can click and it's done (Appendix 02: 144).

Isaac sees YouTube as a 'bolt on' tool and not central. Not as an extension into an expanded reality of networks. His parochial view sees nothing new excepting a different delivery

method and its speed. The changes that this speed has is not considered by Isaac (Virilio 2006; Hassan 2004).

Isaac promulgates the primacy of social learning in a shared space and the need for a MKO (Vygotsky 1978). The didactic 'do as I have done' Master apprentice model.

When asked of the value of YouTube as a student accessible resource

Int.I: And again it's fantastic that it's there... (Appendix 02: 144)

But...

Int.I: I think the problem with new autonomous possibilities is that it relies or it is dependent upon a person's attention span being no longer than about 2 minutes really to sit and look at...I know very, very few students that can look at an instructional video an hour as they might in a drum lesson and I think it's, YouTube is a new ingredient that can inspire people

NRG: So is it [You Tube] an enabler?

Int.I: Yes. (Appendix 02: 145)

Isaac sees comment responses as negative and unhelpful (Whitaker 2016).

Int. I: ...I certainly can't remember the first thing I saw on YouTube ...I am trying to remember the very first thing I can remember. Most likely it was a cat firing a machine gun ...or something like that...something utterly irreverent and pointless.

(Appendix 02: 146)

What qualifies as learning? Entertainment? Again entertainment, but entertainment carries information. The seeking of entertainment is a goal-oriented experience. Goal oriented experience seeking is almost ~Dewey-esque for experiential learning. The goal is your curriculum; the experience is the content, once you have achieved your goal by passing through the experience, you have to a greater or lesser degree...learned, regardless of the

goal descriptor. We are never switched off from our receptivity...again for what its worth...Back to axiology's... and what is of value.

(Appendix 02: 147)

N/A

(Appendix 02: 148)

N/A

(Appendix 02: 149)

Respondent agrees with idea of affordance. Isaac teaches students a drum pattern that is in many popular songs and allows the student to have that moment of insight by 'guided discovery' this guided discovery can be incorporated into YouTube.

(Appendix 02: 150)

N/A

Int.I: To be honest I use YouTube more as a listening tool actually than a visual tool anyway because all the worlds music is pretty much on there albeit at a terrible quality...Hearing the grooves is much more important than being able to see it. And that's because of the way I have learnt, I was taught to listen to music and taught to transcribe what I'd heard and taught to play from hearing it and from reading it and not from watching it on a screen (Appendix 02: 151)

Isaac has a preference for aural learning. YouTube still seen as invaluable resource as a repository of all the world's music and of course its instantly accessible.

(Appendix 02: 152)

N/A

Isaac sees YouTube as a compromise between quality and quantity

Int.I: It is a massive dilution. When you watch Bernard Purdie on YouTube it is 1 per cent of BP just like the music you hear is 1 per cent of the audio information that you

would be getting if you bought the vinyl. But still 1 per cent nonetheless you would have it if you didn't have YouTube (Appendix 02: 153)

Isaac prioritizes his auditory senses by actively shutting down his visuality. He preferences his haptic perceptions of sound vibration and touch-the Aristotelian Koneisis (De Anima)

Int.I: Sure! But when I'm playing I'm listening to what's going on and I can't listen to what going on as well with my eyes open. If I'm trying to recreate a sound I can do that better with my eyes shut. (Appendix 02: 153)

Isaac admits that on occasion he has to see what is happening in order to understand what a particular performer is doing,

Int.I: Yes. There have been occasions when If I am to understand what's going on there I am going to have to see it. And then you see it and then you realize that actually is because he's got some backing track going on or he's got some extra thing on his kit. Something going on that makes the sound possible. But generally speaking, and I'm sure it's just an age thing, I would rather just listen to it. (Appendix 02: 154)

(Appendix 02: 155)

ADHD

Isaac gives an extraordinary exemplar of asynchronous access to a student's cultural context. YouTube extended the reach of the music educator into the learner's world. This is mediated learning in action and also technology enabled mediated learning. The didactic heteronomy of the standard peripatetic approach would and could not work. The student and the teacher found commonality via technology. Isaac explains how YouTube collapsed spatiotemporal and cultural differences

Int.I: One example that I can think of...I had a student from a Romanian Roma Gypsy background whose attention span was very, very short and it was my responsibility to maintain his interest in the drums and to maintain his enthusiasm for playing even though he had no... he wasn't able to count, he

couldn't count to four he couldn't count four bars, he couldn't coordinate his limbs, he couldn't think of playing a groove in any kind of way. And it wasn't until I thought, 'Now hang on a minute!' he's from this sort of Romanian background, what if I asked him to show me the kind of music that he listens to. And through YouTube he played me these musicians, these drummers, that he is actually related to that play this, I mean it's all in 4/4 but nonetheless the emphasis in the bar is very, very different, very kind of rhythmically different to anything that I had been trying to teach him, all the Michael Jackson stuff etcetera and I said right then let's learn this and I started to play this kind of Romanian dance clave to him on a drum kit and he actually burst out crying, he was so, not just impressed but he had suddenly found a whole new enthusiasm for this instrument because I was playing something that he actually recognized.

NRG: So, you put his culture in context. You had managed to find his cultural world and translate it through the drum kit. Bring it from Romania through YouTube and into the room you were in.

Int.I: Now as a classroom teacher that would be impossible to devote that much time to one student within 30 mins but as an individual teacher I was able to do that. And with hindsight it was really obvious thing to do...and why didn't I do that thing before? I should of done. The nature of somebody with ADHD whereby they can't necessarily focus on the exact thing that you want them to is by no means any hindrance or any negative or reason for any negative experience whatsoever. (Appendix 02: 154)

The re-contextualizing capabilities of YouTube as an asynchronous archive were fully utilized within the vignette of the Romanian child and the use of YouTube in connecting the student and teacher through apposite media retrieval absolutely impossible to do before 2005 and the ubiquity of hand-held interconnected recording and transmission devices.